AUGUST, 1848.

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THE

WESTERN JOURNAL,

OF

AGRICULTURE, MANUFACTURES, MECHANIC ARTS, INTERNAL IMPROVEMENT, COMMERCE,

AND

GENERAL LITERATURE.

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M. TARVER AND T. F. RISK,

EDITORS AND PROPRIETORS.

PUBLISHED MONTHLY.

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March 1, 1848.

THE

WESTERN JOURNAL,

M. TARVER and T. F. RISK, Editors and Proprietors.

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THE

WESTERN JOURNAL.

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ART. I.—EDUCATION.

In setting forth the objects of our work in the first number of the Western Journal, we promised to advocate the importance of establishing an efficient system of education, that would ensure to every free white individual in Missouri, sufficient instruction to enable them at least, to read the Holy Scriptures, and the constitution of the government under which they live, and also to enable every elector to write his own ticket, at the polls of an election. We have, until now, deferred the discussion of this subject, with a hope that some philanthropic and experienced individual would respond to our invitation, and furnish us with a plan for the consideration of our readers. But we have waited in vain. National politics, and the claims of certain individuals to the highest office in the gift of the people, are the absorbing topics of the season, and many seem to conclude that the condition of the people in either a mental or moral point of view, is of little consequence, provided they can elect the man of their choice to administer the goveinment. A lively interest in elections is commendable, but a reliance upon rulers to give direction to human conduct, is opposed to the principles of our form of government; and if continued, is calculated, in time, to introduce a change of system. It is true that such a system would, in a great measure, dispense with the teachers, who might be sent to labor in the field or the shop; and would also save the fees of tuition, as well as the time lost at school. These are truly important considerations in the political economy of the country; but those who incline to favor this system on the score of economy, omit to estimate the expense of a standing army, which would doubtless be necessary to sustain it; and would, in all probability, cost more than the education of every individual in the country. The subject is one which especially addresses itself to the statesman, and presents for his consideration the simple point, whether we shall abandon the troublesome experiment of governing ourselves, and return to the ancient, and more simple method of imposing the entire burthen upon one

individual! As the consideration of this point, however, does not properly come within the scope of our work, we must leave it to others, while we proceed to discuss some of the preliminary topics involved in the subject of education. We consider it rather unfortunate for our purpose, that the importance of this subject is so generally admitted; for, owing to this general assent, we apprehend we shall be listened to as one who proposes to repeat a tale thrice told, especially at a season like the present. But we are pledged to the performance of a great duty, and we must redeem this pledge while it is in our power, lest the time should come when we may not labor, and our work remain unfinished.

Our present object is to discuss some of the evils of ignorance, rather than to propose a system of education. We have supposed that the importance of education is generally, if not universally admitted; but this admission is nothing more than that easy assent which saves the mind from the trouble of examination and reflection, and which rarely leads to action; for it is an assent without conviction. Intelligent men are not generally in the habit of considering the subject of universal education as one involving their individual interest or happiness, and are apt to conclude that the ignorance of others is of no disadvantage to themselves. Indeed, it may be affirmed that many base their calculations and hopes of success in their schemes of operation, upon the ignorance of the community to which they belong. These consider ignorance as a commodity in which they possess a sort of property, and therefore, we do not expect to enlist such individuals in the cause of education. But we entertain a hope that such as do not calculate to profit by the ignorance of others, will readily co-operate in some well devised plan of general education, provided we should be able to convince them that it will be the means of promoting their individual interest and happiness.

Man possesses a physical and a moral nature—the one selfish, the other social—each endowed with instincts and desires, which continually conflict with those of the other; but when subjected to the control of an enlightened understanding, they kindly harmonize, and acting in concert, under the guidance of reason, conspire to elevate his condition to that exalted state for which he was designed in the beginning.

The wants and necessities of our physical nature are primary and imperious: and hence, self-love is the principal source of human action, and may be regarded as the chief agent in establishing the first organic forms of society. A sense of weakness and of danger prompted the individual to seek social aid and protection; but this point being obtained, the selfish nature no longer acted in concert with the social—and while each individual sought to appropriate the largest share of the social benefits to his own use, there was none to protect and sustain, in its purity, the social institution. And finally: mere intellectual intelligence, unmodified and unrestrained by moral improvement, enabled a small portion of the community to appropriate to themselves all its advantages; while they unreasonably claimed to be protected in the possession of these advantages by

those from whom they had been taken. And thus, self-love became the destroyer of the institution which it had aided in establishing.

Such is the history of the ancient institutions, and it is obvious to every intelligent mind, that all modern governments are in danger of dissolution from the same cause; and it matters not what their form, or upon what basis they may have been established, their tendency to the same destiny must ever continue, until mankind in general shall comprehend their true interest, and, adopt the principle that their *individual happiness depends upon the social condition of the community of which they are constituents.* This is a cardinal principle in moral economy involved in the nature of man as a social being, and its observance strongly enjoined by the precepts of christianity.

The desire of happiness, or of a better condition, is inherent in man's nature; and the Creator has not only endowed him with faculties suited to the enjoyment of a high degree of physical and moral pleasure, but has also supplied the means of gratification; but the discovery, development, and application of these means are confided to man, and hence the necessity of mental and moral improvement.

Mental improvement merely, although necessary to the attainment of a state of civilization, cannot elevate or sustain it beyond the degree of moral improvement attained by the community. The average degree of moral improvement, if we may so speak, is the true standard of civilization, and the degree of individual happiness, whether below or above this standard, must ever be more or less governed by it. No monopoly of knowledge or wealth can elevate the possessor above the influence that the ignorance and vices of others exert over his condition, nor protect his mind from a continual state of inquietude, induced by these causes. An individual may be learned in every science, and rich in the possession of every commodity necessary to human comfort; but if his lot is cast in a community that is ignorant and vicious, he is surrounded by a moral pestilence as fatal to his happiness as would be the malaria of the Pontine marsh to his physical health, were he confined within its poisonous influence. There can be no community of taste, sentiment, or sympathy between such an one and his unfortunate countrymen, and his dwelling would be in the midst of a moral desert, not less lonely or dangerous to his happiness, than the pathless wilds of an uninhabited continent.

We can imagine but one way of ameliorating the condition of one in such circumstances, and this, by improving the intellectual and moral condition of his cotemporaries. His desire for intellectual and moral enjoyments would, in a measure, be gratified by imparting his knowledge to others, and as their minds became enlighted, the causes of error would cease, and the fountain of vice disappearing, that of virtue would be opened in its stead. Sympathy and social love would take the place of enmity and hatred, and harmony being established the benefactor, rejoicing in his labors, would repose in quiet and safety.

The people of this country are wont to boast of their free institutions, their

general intelligence, and the rapid progress which we are supposed to be making in the march of civilization; and in many respects, but more especially in regard to the excellence of our political institutions, we have just cause of gratulation. For, never before in the history of man has so large a portion of the human family enjoyed the protection of laws which exerted so little restraint upon individual pursuits; but even here the evils of ignorance and vice exist to an extent which detracts much from individual and social happiness. Where is the individual of learning and refined taste who does not feel the need of social intercourse with congenial minds, or where the possessor of great wealth who is free from the apprehension of being reduced to poverty by the machinations of bad men? While all confide more in locks and bars, than in the morals of the community; and like sentinels placed to watch the movements of a wily foe, dare not sleep at their post lest they should be surprised and plundered. The patriot also, lives in a state of continual inquietude, lest designing men, by unwarrantable practices, should mislead the ignorant, and taking advantage of their prejudices, excite them to the support of measures calculated to subvert the principles of government, and destroy the institutions of the country. Nor is the condition of the ignorant and destitute one of more quietude—for, always mindful of the advantages which the rich and the intelligent enjoy, and magnifying in their own minds the happiness which is supposed to attend these advantages, they cherish a spirit of envy and distrust, which usurp the place of sympathy; and hence they bestow their confidence upon those who belong to their own ranks, or upon unprincipled dissemblers, who seek their own aggrandizement, regardless of the means of attainment.

These are evils which are felt and complained of throughout the land, but those who complain most generally do least to correct them; for such seem to conclude that misery in this life is the inevitable lot of man, and that it is little less than sinful to remove the cause, and thus making a virtue of wretchedness, they evince a kind of savage satisfaction in being able to suffer more than their neighbors.

In considering the nature and cause of all these evils, we conclude that they are mainly attributable to ignorance, and consequently in proportion to the advancement of intellectual and moral improvement, they will cease to exist. For, the desire of happiness being inherent in the nature of man, it is absurd to suppose that he would deliberately seek to be miserable if his mind was fully enlightened in regard to the consequences of his actions; and hence we conclude, *that a just knowledge of the rewards of obedience, and a proper appreciation of the consequences of moral dereliction would remove the cause of all those moral delinquencies denominated crime,* as well as of that general state of inquietude which detracts so much from the happiness of those whose lives are comparatively free from vice. And we are persuaded that the annals of crime in every country will sustain this opinion. Out of 41,500 males taken into custody last

year in London, 13,000 were totally ignorant of even the rudiments of learning, and only 150 could read and write well; and of 20,500 females taken into custody, 9,000 could neither read nor write, and only 14 could read and write well. More than one-third of the whole number were ignorant of even the rudiments of learning, and out of 64,000 only 164 could read and write well. And we may fairly conclude, that of those who could read indifferently, perhaps not one in a thousand had ever been taught the first principles of moral philosophy, either from books, or from their associations in society. It is true that highly educated individuals are too frequently guilty of moral delinquencies; but this does not disprove the correctness of our opinion; for a whole life may be spent in cultivating the intellect, with but little advantage to the moral nature; and it may be esteemed as among the errors of the age, that more consideration is given to intellectual than to moral culture.

A system of education, embracing every individual in the State, may be regarded as essentially necessary to the perpetuation of a republican form of government, and for the attainment of this object, the legislature should be invested with power, not only to raise the necessary means by taxation, but also to compel the attendance of such as might refuse or neglect to avail themselves of the opportunities afforded for instruction. And no male individual should be discharged from school until he had received a course of instruction in moral philosophy and political economy. We do not object to universal suffrage even in the present condition of society; but we are fully persuaded that universal education is necessary to sustain it as a system.

It is generally conceded that there must be at least two parties in all free governments; and there is a philosophical reason why this should continue to be the case, perhaps throughout all time. For, if we should suppose all men to be both intelligent and virtuous, still there would remain that difference of temperament which distinguishes the ardor of youth from the caution of age—the former constituting what may be denominated the motive or progressive power of society, while the latter serves to direct its course and restrain it from violence. These are legitimate and natural party grounds, and political parties formed upon any other than these, must be short-lived, and may be regarded merely as episodes in history, which are calculated to blemish rather than embellish its pages.

The more nearly the strength of parties is balanced, the greater will be the influence of ignorance and vice in the councils of the nation; for the suffrages of the ignorant and vicious are more likely to be given to the candidate whose intelligence and morals do not elevate him above their sympathies. And hence, eminent talent, experience, and virtue become practical disqualifications for office. While *availability* is sought with little regard to the opinions or desires of intelligent and good men, but with reference mainly to the support of those who have no better guide for their actions, than selfishness or prejudice.

Should the intellectual and moral condition of the community demand a con-

tinuance of this policy, it will depress the standard of both private and public virtue, until the organic form of our government shall be made to yield to the dictation of ignorant and designing men. For it would be absurd to suppose that he who has been chosen upon the ground of availability, will rise above the principles to which he owes his elevation.

Those who confer the office, also declare the policy by which the incumbent shall be governed, and this becomes the law of his political existence, and he considers himself bound to obey its mandates, regardless of all other considerations. Such could never be the case if all men were educated, for then, although there might be party strife, yet each would select their candidates from among those who possessed the highest intellectual and moral qualifications, as the best exponents of their policy.

We have not drawn a fancy sketch for the purpose of illustrating a theory, so far from it, we have but faintly depicted the image of things that not only exist, but are deeply impressed upon the minds of millions of the American people. But as much as they deplore this, our downward tendency in the scale of civilization, they make a virtue of necessity, and follow the lead of those who give direction to the destinies of the nation, and thus, by their actions, give countenance to that which they condemn in their judgments.

We have treated this subject with something more than our usual freedom of manner for the purpose of arousing the people of the west from that state of apathy which seems to pervade the general mind in regard to public education. Believing that the cause of the evils which we have endeavored to expose cannot be effectually removed by individual exertion, we must look to the legislature for that assistance which the framers of our constitution designed that it should afford, in redeeming its constitutents from the evils of ignorance.

The grant of lands by the general government, for the purposes of education, although liberal, is totally inadequate to the support of an efficient system, and besides this, its benefits are unequally distributed. For, while the lands donated in one township may be sold, perhaps, for two thousand dollars, that in the adjoining township may only bring one thousand—and the proceeds of each are limited to a territorial area, without reference to the number or condition of the population. These are important objections, which ought to be removed if practicable; for there is no principle more important to be observed by governments than that of an equal distribution of public benefits.

We know the reluctance with which the people of every country assent to an increase of taxes, and it is from this cause that the friends of education have most to fear. But we are persuaded that if men will calmly and carefully examine the subject in all its bearings, they will conclude that no other appropriation which they could make of their means, after the primary necessaries of life are supplied, would so much contribute to the happiness of themselves and their offspring. You toil and submit to many privations, for the purpose of transmitting

property to your offspring, but you leave them in a community where the protection of this property is not less a burthen than would be its acquisition; and the chances are scarcely equal, that the benefits will ever reach your children's children, who stand not only an equal chance of being destitute of property, but of the means of education also. Or, should the wealth which you acquire be transmitted to many generations, still if the present condition of society should continue, it may be well doubted whether it will contribute to their happiness. Would not a guarantee on the part of the State, that every individual should receive a reasonable education, be a more certain and better provision for your descendants, of the third generation at least, than any benefits which you could secure to them by the acquisition of property, with so many chances against them for its enjoyment? Should you propose to educate your son with a view of making him useful to himself and to the country, and indulging the natural desire of a parent, you should establish in his mind those high and ennobling principles of virtue and honor which distinguish and adorn the statesman, this would but disappoint your hopes; for these high qualities would elevate him above the sympathies of his countrymen, and, in their estimation, unfit him for public employment. But if you still desire that he should succeed to the high offices of the country, you must caution him against the study and imitation of those high examples which are supposed to embellish and adorn the history of man, and put him as an apprentice to learn the arts of intrigue and dissimulation under some popular demagogue.

But, although the desire of distinction may lead your sons to seek office, even upon these hard terms, yet we cannot suppose that there is a parent in the land whose heart would not be grieved at their success, if obtained upon principles so debasing and dishonorable.

In conclusion, we invite all those who have had the advantages of a liberal education, and who are, therefore, the better able to appreciate its importance, to give their countenance and support to a system of universal education within our State. To the man of wealth we say, if you desire that your descendants should enjoy the products of your toil in comfort and quietude, appropriate a portion of your income to the improvement of the moral condition of those upon whom they must depend for protection. To the poor man we say, if you desire to place your offspring upon the broad platform of equality with those of the rich and honored of the land—if you wish to improve and elevate their moral nature—to guard them against habits of vice and the commission of crime—to lighten their burthen of labor, and to open to their minds a boundless source of intellectual and moral enjoyment, then come up to this great work, and cheerfully contribute your mite to aid in its consummation.

ART. II—THE COMMERCE AND NAVIGATION OF THE MISSISSIPPI RIVER AND ITS TRIBUTARIES.

CHAPTER II.

HAVING in the first division of our subject spoken in general terms, of the nature and extent of the country and its navigable streams, we come now to treat of its general history, particularly with reference to its progress in population, commerce and navigation.

For the last sixty years the population of the Valley of the Mississippi has doubled every ten years. At the first census of the United States (1790) it did not exceed 200,000. In 1800, it had increased to about 560,000; in 1810, to 1,370,000; in 1820, to 2,580,000; in 1830, to 4,190,000; in 1840, to 6,370,000; and in 1847, according to the preceding average ratio of increase, it exceeds 10,520,000. In the year 1850, according to such ratio, it will exceed 12 millions, and be about equal to the population of all the Atlantic States.

The history of Missouri alone, however, exhibits a still more extraordinary increase. In 1771, the population was 743;† in 1799, it was 6,005; in 1810, it was 20,845; in 1820, it was 66,586; in 1830, it was 140,455; in 1840, it was 383,702; and according to the same ratio of increase, (173 per cent. decennially,) it is, in 1848, 531,040, being an increase of over 17 per cent. per annum, and the present population, without doubt, actually exceeds that number. But while the decennial increase of Missouri was 173 per cent., that of Illinois was 202, Mississippi 175, Michigan 555, and Arkansas 221 per cent.

The commerce and agriculture of this Valley exhibit a growth as surprising as that of its population.

The first schooner of the Northern Lakes, "the Griffin," in 1679, was freighted with the first combination of commercial enterprise and settlement that reached the Valley of the Mississippi. Thus the rivers of the Valley owe to the great Lakes the introduction of commerce and population.

From that period up to the purchase of Louisiana in 1803, and even later, the fur trade of the French immigrants with the Indians constituted a leading pursuit of the inhabitants, especially of the upper half of the Valley of the Mississippi. These immense rivers and lakes were navigated from Quebec, on the St. Lawrence, to the Yellowstone, on the Missouri, by bark canoes, and the Fox and Wisconsin rivers, connecting the Lakes with the Mississippi, were a chief thoroughfare of the trade.

Next to the canoe came the Mackinaw boat, carrying 1500 weight to 3 tons, and then the keel boat or barge of 30 to 40 tons. The first appearance of the keel boat, in the Mississippi, above the mouth of the Ohio, of which we have any account, was in 1751, when a fleet of boats, commanded by Bossu, a Captain of French Marines, ascended as far as Fort Chartres. This enterprise also, was

†Hutchins.

the first to ascertain, by experience, something of the nature of the navigation of the Mississippi. One of the boats, "the St. Louis," struck a sand bar above the mouth of the Ohio, was unladen and detained two days. Three days after says the traveler, "my boat ran against a tree, of which the Mississippi is full;* the shock burst the boat, and such a quantity of water got in that it sunk in less than an hour's time." This was probably the first boat snagged on the Mississippi. From three to four months was the time consumed at this period, and for many years afterward, in a voyage from New Orleans to the settlements in the vicinity of St. Louis; a voyage occupying a steamboat in 1819 twenty-seven days! but which of late has been accomplished in less than four days!

The annual average value of the fur trade of Upper Louisiana for fifteen successive years, ending in 1804, amounted to $203,750. That part of the province also exported some lead, salt, beef and pork—the Indian goods coming from Canada, those for domestic consumption from Philadelphia and Baltimore; groceries from New Orleans, and hardware in small boats from the Ohio river. The annual exports from the lower part of the Mississippi Valley for the year 1802, amounted to about $2,160,000, and the imports to about $2,500,000; the exports consisting of sugar, cotton, rice, indigo, furs and peltries, lead, lumber, cattle, horses, beef and pork, tar and pitch. For the year 1846, the receipts at New Orleans from the upper country, amounted to $90,033,256.

At the period of the introduction of steam upon the Mississippi, 1817, the whole commerce from New Orleans to the upper country, was transported in about twenty barges of an average of 100 tons each, and making but one trip in a year. The number of keel boats on the Ohio was estimated at 160, carrying thirty tons each. The total tonnage was estimated at between 6,000 and 7,000.

In 1834, the number of steamboats on the Mississippi and its tributaries was 230, and their tonnage equal to about 39,000.

In 1840, the number was 285, with a tonnage of 49,800.

In 1842 the steamboat tonnage of the western rivers was returned by the Treasury Department as follows:

New Orleans,	80,993
St. Louis,	14,725
Cincinnati,	12,025
Pittsburgh,	10,107
Louisville,	4,618
Nashville,	3,810
Total,	126,278

In 1843, the number of boats was estimated at 672; tonnage, 134,400.

*By this accident, I lost all I had; I ran the risk of perishing too; for I had thrown myself in a pirogue, but it was so full of goods saved from the wreck that it overset; several soldiers were drowned, and I should have shared the same fate had it not been for a generous Akanza, who, not fearing the severity of the season, leaped into the water and seized me by my riding coat.—[Bossu, vol. 1, p. 114.

In addition to the steamboats, there are estimated to be employed on the same rivers, about 4,000 keel and flat boats.

For the year 1844, the enrolled and licensed steamboat tonnage of the western rivers, was reported by the Secretary of the Treasury at 144,150, which, at an average of 210 tons* for each boat, gives 686 steamboats for that year.

By a subsequent report from the same source, the tonnage had increased by the last of June, 1845, to 159,713, making the number of boats 789.

The reports from the same authority, for 1846 and 1847, exhibit the steamboat tonnage enrolled and licensed at the several districts named below, as follows:

STEAMBOAT NAVIGATION.

	1846.	1847.
New Orleans,	180,504 .81	114.498
St. Louis,	22,425 .92	29.161†
Pittsburgh,	17,162 .94	23.882
Cincinnati,	15,312 .86	17.801
Louisville,	8,172 .26	10.388
Nashville,	2,809 .23	2.707
Wheeling,	2,666 .76	2.660
Total,	249,054 .77 tons.	201.097 tons.

If, then, we apply the average of 210 to this tonnage, it appears that the number of our steamboats in 1846, was 1,190, and in 1847 only 958. At $65 per ton, the aggregate value of the boats of 1846, was $16,188,561. Supposing them to run 220 days in the year, at the cost of $125 per day for each boat, and the annual expense of running 1,190 boats appears to be $32,725,000. Estimating the average number of persons employed on each boat at 35, gives a total of 41,650 persons actually employed upon the steamboats of the Valley of the Mississippi. To this we may add the estimated number of 4.000 keel and flat boats, embracing in their employment 20,000 souls, and costing to build and navigate them, $1,380,000.

To obtain an accurate account of the commerce conducted by these boats, and its actual value, is a thing impossible. We can only make an approximation.

The value of western products received at New Orleans from the interior, for the last five years, is as follows:

1842–43,	$53,728,054
1843–44,	60,094,716
1844–45,	57,199,122
1845–46,	77,193,464
1846–47,	90,033,256

Showing an annual average increase of over ten per cent.

*We have adopted this average from the experience of St. Louis for 1846. There were 251 steamboats engaged in the trade of St. Louis that year, with an aggregate tonnage of 53,567, or 210 tons to each boat.

†This sum is too low. The collector of the port reports the amount to be 31,629 tons.

An equal amount, it is supposed, finds its way to the Atlantic cities through Pittsburgh and the lakes and canals of the interior.

There is to be added to these sums the shipments from one port to another of the west, for home consumption, of the products of our manufactories, and other results of skill, industry, and capital. An intelligent committee at Cincinnati, in 1844, estimated the whole of this interchange of commodities at an aggregate of seventy millions of dollars. Estimating its annual increase at ten per cent., it is now equal to $98,000,000.

Thus we have of the domestic products of the Valley of the Mississippi annually put afloat upon its waters, a total of $265,825,620.

The returns, or imports of specie, bullion and goods, from the Atlantic States and foreign countries, by all routes, are estimated as equivalent to the value of our exports of domestic produce. Then we have as the grand aggregate value of the commerce annually afloat upon the navigable waters of the Valley of the Mississippi, the sum of $435,651,240, being nearly double the amount of the whole foreign commerce of the United States.

This is one mode of estimating. Here is another: We have 249,054 tons. Supposing that upon an average, each boat makes 20 trips, (40 voyages,) a year, the whole will carry annually, 9,962,160 tons. Adding the freights of 4,000 flat boats, carrying an average of 75 tons each, making 300,000 tons more, we have an aggregate annual tonnage of 10,252,160; and this, too, is the measured tonnage. The boats of our rivers carry almost invariably more actual tons than they measure. We are not endeavoring to arrive at net value, but the aggregate value afloat, and therefore we have taken no note of the passenger trade, nor of the fact that the exports of one place may be the imports of another. Exports or imports, they nevertheless must be afloat and at hazard. The question is soon solved if we can ascertain how many times in a year each of our tons makes a voyage, and what each of those tons is worth. Our steamboat captains say that our boats make, upon an average, forty voyages a year. Now, what is a ton worth? We have seen a lake ton estimated at $32. We have found $68 to be the average value, per ton, of eleven leading articles of our river commerce. Suppose the mean of these two be taken for the truth, and we thus find we have put afloat over 500 millions of dollars.

The topographical bureau at Washington, upon mere comparison with Lake commerce, and inferences from old statistics, has lately estimated the *net* value of our river commerce, at $183,609,725, which being doubled, gives $367,219,450; the author admitting that he is probably below the mark, as he undoubtedly is.

Still, in any point of view, or in any mode of expression, the commerce of our rivers is almost incomprehensibly large. Estimates made by us last summer for another occasion, deemed exaggerated and incredible at the time, we have seen no reason to change, and have therefore used them here. We adhere to the fact we have expressed, that the floating commerce of the western rivers is nearly

double the total foreign commerce of the United States, and now add further, that, the commerce of the rivers exceeds both the lake commerce and the foreign commerce added together!

[TO BE CONTINUED.]

NOTE.—We have received an anonymous but polite hint relative to our orthography of "Wiskonsan," our correspondent reminding us of the *Wisconsin* generally in use and the French Ouisconsin of former days. Gov. Doty is our authority for stating *Wiskonsan* to be the correct Indian orthography, and it certainly seems more Indian like, with the accent on the last syllable.

ART. III.—THE LIFE OF JOHN RANDOLPH.

THIS is the title of a forthcoming work from the pen of HUGH A. GARLAND, Esq., who has politely permitted us to transfer the following chapter to our Journal.

The written life of a prominent statesman properly embraces the political history of the age in which he lived; and there is, perhaps, no period in American history fraught with so much instruction in regard to the true nature of our institutions, as that in which the subject of this memoir acted a conspicuous part. This was the period in which the first practical application of the theory of a republican form of government, based upon the universal suffrage of its constituents, was first made by any considerable portion of the human family; and hence, it will be regarded in all time to come, as the most interesting in the annals of history. Revolutions are common events, and have served to swell the volume of history from the first dawn of civilization; but the establishment of a government upon principles of equal rights and equal privileges, was reserved as the great moral achievement of the American people, subsequent to their revolution.

The reader will perceive, from the chapter before us, that the author is preparing the way for a comprehensive view of his subject. In doing this, it was natural that he should introduce the leaders of the two great parties; and we have selected this chapter as affording a test of the impartial manner in which he treats his subject. Impartiality may be regarded as the highest quality of the historian and biographer, and he who can, at the present day, do equal justice to the character of HAMILTON and JEFFERSON is entitled to more than ordinary commendation. Let the friends of each judge for themselves. From the slight perusal that we have given the manuscript, we conclude that it is destined to take its place among the standard works of the country.

JEFFERSON AND HAMILTON.

In the winter of the year 1790–1, Philadelphia had again become, as in times of the old Continental Congress, the great centre of attraction. By a recent act it had been made the seat of the Federal Government for *ten* years. The

National Legislature, adjourning the 12th of August in New York, were to assemble the 1st Monday in December, in the new capitol. The papers and offices of all the executive departments were removed thither early in October, under the conduct of Col. Hamilton, the Secretary of the Treasury. The President, returning from Mount Vernon in December, took up his lodgings in a house belonging to Robert Morris, which had been hired and fitted up for the purpose. And Tuesday, the 7th of December, the third session of the first Congress was organized in the new Court House of the city, which had been tendered to the government by the town authorities. We find also, our young friend, in this general removal, transferred to the city of Philadelphia. He took up his residence at No. 154 Arch street, where he continued with short intervals, till the spring of 1794, when he returned to Virginia.

He was attached to the family of Edmund Randolph, the Attorney General of United States—the same person his mother pointed him to as the model of an orator, worthy of his imitation. Edmund Randolph was a kinsman in the collateral line. He was the son of John Randolph, the King's Attorney General, about the time of the Revolution.

"Mr. Randolph," says Wirt, "was, in person and manners, among the most elegant gentlemen in the colony, and in his profession, one of the most splendid ornaments of the bar." He was the son of Sir John (Knight,) who was the son of William, of Turkey Island, the great American progenitor of the family.

Edmund Randolph inherited many of the accomplishments of his father; but he was more showy than solid. He was also of a vascillating character—voting against the constitution—then violent in its favor. Striving at first to steer above the influence of party, he was at length engulphed and swept away by its current. We may, therefore, suppose that his influence over the mind and character of his pupil was not so great as that of another kinsman, who was also a member of General Washington's Cabinet. We allude to Thomas Jefferson, the first cousin of John Randolph's father, and the intimate friend of his youth.

Mr. Jefferson had been abroad some years as Minister to France. Returning on a visit to America, he was invited by Gen. Washington to take charge of the State Department. The invitation was accepted, and he was no sooner installed in office in the spring of 1790, than he became the head and leader of the Republican States' Right party, then struggling into existence. It was not the exalted station alone, but other circumstances that forced him into this unenviable and critical position. The author of the doctrine of State Rights, and its eloquent defender—George Mason and Patrick Henry—were both in retirement. The latter had been offered a seat in the Senate at its organization, but declined. It was tendered to him a second time, on the death of Col. Grayson; he again declined on the ground that he was *too old to fall into those awkward imitations which have now become fashionable*—spoken in allusion to the levees of Mrs. Washington, and the etiquette observed in presentation at the executive mansion.

Richard Henry Lee was still in the Senate. He was the gentleman, the scholar and the orator—but his thoughts ran too much in the smooth channel of established forms—his oratory too elaborate and polished—his disposition too indolent and unambitious, to make him the fit leader of a party just coming into existence in a new era, with new thoughts, new principles, and an untried experiment before them. Thomas Jefferson was the man. The qualities of his mind, his education, and previous course of life fitted him to be the bold and intrepid pioneer of that untried course the people had entered upon.

His mind, not of the Platonic cast, was eminently perceptive. The abstract had no charms for him—the spiritual no existence. Devoted to the natural sciences—his Metaphysics savored of Materialism. Locke's Philosophy of the Senses bounded his conceptions of the human understanding. And the French Disciples, who pursued the doctrines of their master, to the legitimate consequence of sensualism and infidelity, were his chief authorities on all questions of morality and religion.

He was a bold, free-thinker, bound to no school. "I never submitted the whole system of my opinions," says he, "to the creed of any party of men whatever, in religion, in philosophy, in politics, or in any thing else."

He was born in a country, in the vigor of its youth, untrammelled by habit, and new in all its social relations. He was a child of the Revolution. His ardent temper was kindled by its stormy passions—and his bold intellect grasped the master idea of that great popular movement, which was unfettered freedom to mind, body and estate. By him the law of primogeniture was destroyed in Virginia—religious freedom established—and universal liberty and equality proclaimed in the Declaration of Independence.

His ruling desire to strike the padlock from the mind, and the fetter from the limbs of mankind, was rather strengthened than abated by his long residence abroad under a despotic government. Being a man of letters and of taste, he was in intimate association with the great writers and master spirits that set the ball of the French Revolution in motion. In boldness and freedom of discussion they surpassed even himself. Speaking of them he says, "the writers of this country (France) now taking the field freely, and unrestrained, or rather revolted by prejudice, will rouse us all from the errors in which we have been hitherto rocked."

A witness of the assembling of the States General, May, 1789, he rejoiced in the downfall of the worn out French monarchy, of which that was the signal; and was the friend and adviser of those who sought to rebuild on its ruins a freer government with broader and deeper foundations. He heard the rights of man, the origin of government, the abuses and limitations of power, more freely discussed in the cafes and saloons of Paris, than in the court yards of Virginia.

When the usages and precedents of past times and other governments were scornfully rejected, he saw our own proceedings pointed to as a model and regarded with an authority like that of the Bible—*open to explanation, but not to question.*

Coming from those scenes of enthusiasm in which he so warmly participated—coming from a land where old prejudices and long established abuses were vanishing away—where the titles of Feudalism, and the privileges of Despotism had been swept away in a night, and a great nation were rejoicing in the dawn of a new era of freedom—he expressed himself astonished to find his own government, which was regarded by others as a model and an example, possessed with a spirit that seemed to him so anti-republican.

This false direction of the government he mainly attributed to the financial schemes of Alexander Hamilton, Secretary of the Treasury.

It is well known, that Hamilton advised a Constitution far different from the one adopted. His was a plan of consolidation, with a strong infusion of the Aristocratic principle. Having experienced the imbecility of the Confederation, he did not believe the new government practicable. Without a successful example in history, he did not believe in the capacity of the people for self-government. Judging of mankind by the oppressed and degraded specimens of the army and of the old country he did not duly appreciate the intelligent and manly character of his own countrymen; nor did he comprehend the nature of that government of specified powers and divided sovereignty which was the embodiment of their spirit and principles. Placed at the head of the financial department of a new government he was surrounded with many difficulties. The war had left the Confederation and the States burdened with debt and exhausted of resources. It became his duty to devise means to resuscitate the one and to pay off the other: with no experience in his own country, it was natural he should look to the successful example of others. He is considered a wise statesman, who is guided by established precedents, does not strike into unknown paths, but prudently follows the course that has been pursued before him. Judging him by this rule it would be hard to say how far he ought to have acted otherwise than he did, without hazarding the censure of rashness. "The chief outlines of these plans," says he in his report on public credit, "are not original, but it is no ill recommendation that they have been tried with success. He recommended that the debts which had been contracted by the several States in the War of Independence, and for which they were bound as independent sovereignties, should be assumed by the new government—that these assumed debts and those contracted by the Confederation, amounting in all to some eighty millions of dollars, though greatly depreciated and passed from the hands of the orignal owner—should be funded at their par value—the interest to be paid regularly by an excise and an impost duty—but the capital to be viewed in the light of an annuity at the rate of six per cent. per annum, redeemable at the pleasure of the government. He also advised the incorporation of a National Bank, as "an institution of primary importance to the prosperous administration of the finances, and of the greatest utility in the operations connected with the support of the public credit." In his reports he labors, at great length, to prove the utility of a well funded National Debt; "it is a well

known fact," says he "that in countries where the national debt is properly funded, it answers most of the purposes of money. Transfers of stock or public debt are there equivalent to payments in specie; or in other words, stock in the principal transactions of business passes current as specie. Trade is extended by it, because there is a larger capital to carry it on. Agriculture and manufactures are promoted by it for a like reason. The interest of money will be lowered by it, for this is always in ratio to the quantity of money, and to the quickness of circulation. From the combination of these effects, additional aids will be furnished to labor, to industry and to arts of every kind. But these good effects of a public debt are only to be looked for, when by being well funded, it has acquired an adequate and stable value." These arguments viewed in connection with the obvious tendency of his policy, led the enemies of Hamilton to declare, that he regarded a National Debt as a national blessing. Though this inference might be drawn from his doctrine and policy, he yet, in express terms, declared himself against it. "Persuaded as the Secretary is," says he, "that the proper funding of the present debt will render it a national blessing, yet he is so far from acceding to the proposition, in the latitude in which it is sometimes laid down, that 'public debts are public benefits;' a position inviting to prodigality, and liable to dangerous abuse, that he ardently wishes to see it incorporated, as a fundamental maxim, in the system of public credit of the United States, that the creation of debt should always be accompanied with the means of extinguishment." Had those schemes of Hamilton been laid before a British Parliament, they would have been viewed as clearly and ably expressed, and adopted as practicable and expedient; but with us, far other and higher considerations than those of expediency or practicability had to be weighed before the adoption of any measure. The British Parliament was omnipotent; the American Congress limited to a few, well defined, and specified powers. Parliament was only guided by precedent and usage—Congress was controlled by the words of a written Constitution. There was with us, therefore, a primary and fundamental enquiry to be made on all subjects of legislation, unknown to the British statesman. Whenever a measure is proposed, the first question should be—Is it constitutional? Is it authorized by the specified powers laid down in the charter? or does it encroach on the reserved rights of the States? How does it affect the balance of power between the Executive, Legislative and Judiciary Departments, or how does it operate on the morals and integrity of the people, upon whose purity depends the existence of a free government? Unless these preliminary questions are always honestly and fairly settled, it is obvious that a Republic and a written Constitution cannot long be of any avail. But these considerations did not occur to the mind of Hamilton, in projecting his schemes of finance; they are never started, nor is the slightest allusion made to them in his reports. He views every subject in its financial aspect, without regard to its political bearing on the new, peculiar, and delicately balanced institutions of his country. This was his great and fatal error: Thomas Jefferson perceived it and

battled against all his schemes as unconstitutional, destructive to the independence of the States, and corrupting to the rulers and to the people.

Posterity, therefore, in pronouncing judgment on these great rivals would be constrained to say that Hamilton was the able financier, but Jefferson the profound statesman. While the one with averted countenance looked back upon the lights the world had already *passed*, the other with prophetic vision caught the rays of a new constellation, just dawning upon it. Gathering up in his capacious mind the tendency and influences of those feelings, and opinions recently developed in American history and institutions, Jefferson conceived a theory of government that embodied the growing sentiments of the people and fulfilled their idea of what a free Republic should be. He stands in relation to the Constitution as Aristotle to the Iliad, Homer wrote the poem, the philosopher deduced thence the rules of poetry. Mason and other sages made the Constitution, the statesman abstracted from it the doctrines of a federative representative republican government, and demonstrated that they alone are adapted to a wide-spread and diversified country, and suited to the genius of a free and enlightened people. Were the question asked, What has America done for the melioration of mankind, the answer would not be found in her discoveries in science or improvements in art, but in her political philosophy as conceived by Jefferson and developed by his disciples. Though he was the acknowledged leader of what may be called the great American movement, he never spoke in public, and never wrote an essay for the newspapers. His great skill lay in infusing his sentiments into the minds of others by conversation or correspondence and making them the instruments of their propagation. Gathering about him the influential men of the new party, he imparted to them more comprehensive views of their own doctrines, and made them the enthusiastic defenders of those principles, the importance of which they had but dimly perceived. Over no one did he exert a greater influence than the young and ardent subject of this memoir. His connection with the family of Edmund Randolph and his near relationship to Mr. Jefferson himself, brought him frequently within the sphere of that fascinating conversation which was never spared in the propagation of his opinions. But, John Randolph, although a youth, was not the character to yield a blind allegiance to any leader. The disciple differed widely in many doctrines from the master. The grounds of that difference may be found in the writings of another great statesman that begun about that time to take hold on his mind and deeply impress his character. So great was their influence in after life that the writings of Edmund Burke became the key to the political opinions of John Randolph. With him Edmund Burke was the great master of political philosophy.

ART. III—MENTAL CULTURE.

"What is man,
If his chief good and market of his time
Be but to sleep and feed? A beast, no more!"—SHAKSPEARE.

MERE animal gratifications are, in truth, as my epigraph implies, the chief good of our uncultivated nature. Man has been endowed by his Creator with faculties of a high order, capable of affording him the most refined and exquisite enjoyments, but the condition on which they thus administer to his happiness is that of use and exercise upon objects that are worthy.

Without their appropriate culture, indeed, or when misdirected to low and unworthy purposes, those faculties, otherwise so enobling, will become but a snare to their possessor, and may prove rather a curse to him than a blessing; and he who keeps them altogether unemployed, may be said, in the homely but expressive language of the poet, to be "a beast, and no more."

Cultivation of mind is the boast of every civilized people; it is the means by which civilization has been achieved, and the only means by which it can be maintained or farther advanced; the two terms are in fact convertible, and we may fairly estimate the degree of civilization to which a people has attained, by the extent to which they are known to cultivate the higher faculties.

This is equally the condition and the test of their advancement, primary and essential, and which, if neglected by any people, whatever intellectual superiority they may have previously won, they will again by such neglect, gradually lapse into barbarianism. Nothing remains stationary, nor can man, in any of his characteristics, resist change if he would. If we advance not we must retrograde; and this is alike true of our physical, our intellectual, and our moral natures. Our mental states are different now from what they were a year, a month, a week ago. We are ever acquiring new ideas.

Our views of men and things are not to-day precisely what they were yesterday; and as with our intellectual so it is also with our moral characteristics; our morals improve or they deteriorate. If, as we live on, we become not better we inevitably grow worse. Change, decay, and renovation is the established order of nature from which there is no escape. Our entire being is in perfect harmony with this state of things, and man is so constituted as to be dependent for his well being upon intellectual and moral advancement; and it is equally true that if we advance at all it must be by increased cultivation.

Let the many become distinguished by the same ardor for mental acquirements, and be in possession—if this be possible—of the same mental attributes which already characterize the select few who earnestly and sedulously cultivate their faculties, and we shall reach a state of civilization and social happiness to which mankind have never yet in any part of the civilized world at all approached. It is to be feared, however, that we are yet very distant from a consummation so

desirable; great and important changes—in the minds of the people, at least—remain to be effected before such a condition of society as here alluded to, can be brought about or attempted with any hopes of success.

It is not certainly by any genius of the hand in the arrangement and disposition of *matter*, by the discovery of new principles of science or a novel application of those already known—not by the promotion of our physical comforts and conveniences, however desirable, that we can expect to attain to our 'chief good' and find the best 'market of our time.'

Nor, much as depends upon the nature of our political institutions, can we reasonably expect by any skilful modeling of these, or other political changes, to accomplish our end, and find in them alone the means for attaining to our greatest happiness. To a highly cultivated people these things are of less consequence, and mere forms even of government, will signify but little when the masses become sufficiently intelligent.

Whatever the form which a people may be fated to live under, freedom, good institutions, wise laws and regulated liberty will prevail in proportion as they become thus distinguished. Intelligence constitutes the only real power, and with enough of this the masses will always direct the operations of government aright in whatever circumstances they may be placed. Universal experience has sufficiently established the fact that whatever may be our physical well being, or our possessions in other respects, the mind—the intellect--is not to be satisfied except with something intellectual, but unfortunataly for our happiness, we are constantly looking beyond the mind for what is to be found only within in.

We esteem ourselves as being a people among the most civilized of the earth, and, in many respects, this is not to be questioned. Various ideas are, however, attached to the term civilization, and it is differently defined according to the aspect in which the thing itself is regarded by different individuals. We have freed ourselves from many restraints which still continue to impede the advancement of others; but whether we may not have imposed upon ourselves others of a different nature, and more hopelessly binding, would, perhaps, be no ufitting subject of enquiry. Mind is active among us, and we can boast a large share of inventive genius; we are discriminative and persevering withal, but whether we are making any real progress in that better civilization which regards the heart as well as the head, refining the feelings while it improves the intellect, may justly, in my estimation, be questioned.

Our minds are too exclusively engrossed with pursuits of a worldly nature; and whatever sentiments we may entertain favorable to a higher species of culture than that which we generally engage in, they appear to influence our conduct but slightly in active life: practically, we repose our chief good in material enjoyments.

The objects of industry upon which talents and genius are employed, are too exclusively material—to alter matter and not to alter the state of mind. It must be confessed too, with whatever reluctance, that here, in the expansive West,

where the present population is but the germ from which is to be unfolded a mighty empire, and fated, therefore, to influence the destiny of unborn millions by what may be its present characteristics, intellectual and moral, there is notoriously a great want of cultivation in almost every community.

The means for remedying this defect are sufficiently abundant, and the facilities numerous, yet we avail ourselves but little of the circumstances; cultivation is indeed hardly any where among us sufficiently appreciated by young or old, and purely intellectual pursuits are held in but little general estimation: nay, is it not too often the case that the individual who lives in seclusion and devotes his time or his leisure to pursuits of such a nature, instead of receiving our sympathies, experiences more of our contempt than our countenance and encouragement? While this continues so to be, what else can be predicated of us than this, that we are a people given up to materialism, and who follow after strange gods; that we worship Mammon, or sell our birth-right for a mess of pottage? For in the absence of cultivation and all appreciation of it, our supreme felicity is still to "feed and sleep," to buy and sell, and get gain by driving hard bargains.

But whether this be a true representation of the condition of mind and thought as existing among us, or otherwise, and even should we be persuaded that we are advancing in that path in which it is most desirable we should direct our steps, let us not be unmindful that our present State, boastful as we may justly be of it, when comparing it with the past, or with that of many others, is but one of progress; that we are but yet in a stage that is intermediate, and very far removed from the goal we should aim at—that ultimate state of civilization and condition of social life in which the well being and happiness of mankind may be expected to be increased a hundred fold.

We conceive ourselves to be happier in a civilized than we should be in a savage condition, and with justice. The chief if not only characteristic of civilization, and that which distinguishes it from barbarism, is cultivation of mind.

It is to his greater mental endowments that man owes his superiority over the rest of the creation; by them he is enabled to subdue brute force however formidable, to exert a control over the circumstances around him, and obtain dominion over the material universe. By cultivation he is diverted from pursuits of a low and grovelling nature which lead to no substantial enjoyments, and enabled to appreciate those higher and more refined pleasures which a cultivated intellect can alone experience, and which raise man in the scale of being and of happiness so far above, not only the mere animal creation, but above all others of his species who permit their minds to lie fallow, or to be engrossed only with low and sordid interests. The mind that has never been awakened so far as to be smitten with the love of knowledge, makes no inquiries, and sees nothing in its acquisition but a dull and tiresome labor; its unfortunate possessor meets with nothing to excite his wonder and admiration, but gazes with stupid apathy on all the beauties and grandeur of the universe.

To the mind not habituated to study, thinking is an arduous task; some discipline is necessary and some efforts required to be made by every one before intellectual pursuits can be in any degree appreciated as a means leading to improvement and happiness. Mind is the medium of all the knowledge that can be acquired. It is by the exercise of thought that every operation, mechanical, agricultural, &c., as well as every professional or other pursuit, is carried on and perfected; and in proportion as the mind is informed and invigorated, will excellence and eminence be attained in every walk of life.

In whatever way we may be engaged, whether in the acquisition of wealth or power, or in "seeking the bubble reputation," or, whether we be merely endeavoring by our physical energies to prolong existence by catering for the necessaries of life—mind is all that is truly concerned: we are contemplating something which we believe will administer to our happiness, or avert from us dreaded evil. It is surely worth our while then to devote some portion of time and to bestow some care upon our minds in the endeavor to improve them.

Unless indeed we do this—extend our ideas and treasure up thoughts for future use—every acquisition we can otherwise make, however considerable, will be vain and profitless when regarded as a permanent good. But we suffer our thoughts to be too much engrossed with material objects, and, unfortunately, when this is the case, and the attention becomes exclusively occupied with the properties and interests of external things, the effect is to render the mind in our imagination, subordinate to the objects upon which it is directed; the faculties are nothing—the objects every thing.

It will be well for us, therefore, sometimes to turn our thoughts inwardly, and make ourselves acquainted with the properties of mind as well as of matter, for a knowledge of the instrument with which we operate will certainly enable us to use it to greater advantage. I know of no study, indeed, which in an equal degree enlarges the ideas, or which calls up so great an amount of thought as that of mental science. It is therefore a fitting subject to employ as a means for obtaining mental culture.

But these observations are somewhat aside from my present purpose, since it is not my object to write a dissertation on mind itself, its nature and constitution, but to insist upon the importance and necessity of *using* it, or of directly cultivating the faculties so as to develop their full powers.

In pursuing my subject then, it may not be altogether futile to inquire what is to be understood by *cultivation*; for when we come to know what are the precise ideas we should attach to the term, we shall more advantageously prosecute what is implied by it, and be enabled the better to secure its benefits. To do this, and to point out by what means cultivation could be most effectually obtained has been a part of my aim and object from the outset.

The subject is a familiar, if not a hackneyed one, and the task of illustrating it would seem to be sufficiently simple and easy of accomplishment.

It is a theme often urged upon the young by those of matured life, but its benefits may be appropriately recommended to the consideration of this latter class also, who may prosecute it with equal or superior advantage, as being less volatile and possessing reasoning powers more developed. Mental culture, however, when it becomes the subject of notice, is mostly descanted upon in terms that are too general for forcibly impressing its benefits upon the minds of those who are unacquainted with them, or who need incitements to engage in the task. Any analysis of it is rarely undertaken by those who are in the habit of urging its importance, and it is questionable whether the great majority of those addressed, and who think at all on the subject, have any exact ideas as to what cultivation really is and how it is best to be obtained.

I propose, on this occasion, therefore, to attempt this analysis, and to explain and illustrate the subject in as plain and familiar a manner as I can by instances and exemplifications.

The shortest definition which I can give of the term cultivation, is this—it is the exercise of the faculties of the mind upon a great variety of subjects, in such a manner as to develop their powers to an extent far beyond what they would be capable of exerting without having had the benefit of such exercise, or, if they had been employed upon one or two subjects only; for they grow and enlarge by use, and without use or exercise, they can scarcely be said to be any thing, or if any thing, their condition would be analagous to that in which we may suppose the limbs of the body, were the latter to be altogether unused; they would be incapable almost, of an effort, or in any way of exercising their functions.

But this exercise of the faculties does not necessarily imply the cultivation of letters, or indeed any acquaintance with them, for the minds of men may and do get a large amount of culture without the direct aid of literature; while on the other hand, it is quite possible that a man may have made no inconsiderable advances in mere literary acquirements, and yet have obtained from them but a slender amount of cultivation.

Learning is not always knowledge, nor will mere reading without reflection and the due exercise of the understanding, cultivate the intellect so as in any considerable degree to give it acuteness or increase its powers of discrimination. Without the use of the reflective faculty in reading, "the knowledge obtained from books," as elsewhere observed, "may rest upon the memory as it came there, when for any practical purpose it might as well have remained on the shelves with the books, to be taken down as occasion might demand.

"There are many *book worms* who devour words but never touch an idea;" there is too often much learning with but little real knowledge. Knowledge, to be of practical value, must be elaborated through the thoughts by reflection, until it becomes a part of our ordinary associations, for not until then will it be truly our own. It has been well observed that, "although we may be learned by the help of others, we can never be wise but by our own wisdom." The best part

of a man's education is that which proceeds from himself; nor is it a something to be finished at a certain age; in the best sense of the term, a man's education, and his life should only terminate together.

The form and fashion of our minds, if they are to be such as most desirable, must be the work of self-discipline. "In all circumstances," says Daniel Webster, "as a man is under God, the master of his own fortune, so is he the master of his own mind. His Creator has so constituted the human intellect that it can grow only by its own action, and by its own action it most certainly and necessarily grows. Every man must therefore, in an important sense, educate himself. His books and teachers are but helps—the work is his.

"The greatest of all the warriors that went to the siege of Troy, had not the pre-eminence because nature had given him strength, and he carried the longest bow, but because self-discipline had taught him how to bend it."

But let me be rightly understood—I have said that letters are not a necessary means of culture, and that a man may cultivate his intellect without their aid; I wish not to detract in the slightest degree from the importance of literature, but acknowledge how immeasurably great is our indebtedness to it as an auxiliary,—what I mean to assert is, that a certain, and that no inconsiderable degree of cultivation, can be attained to without the use of letters: they were the result and not the cause and origin of civilization in the first instance.

But in the present age they afford, if rightly used, the readiest and most effectual means of cultivation, and the mind of any man, whatever other means he might resort to, or however sedulously he might employ his thinking faculties, would, without their aid, if estimated by the modern standard, be but very partially and imperfectly cultivated. They have become indispensable to any further advancement.

Mankind first arrived at a certain stage of civilization by other means; they had made discoveries, invented arts, and accumulated knowledge, long anterior to the literary period; but destitute of the art of recording that knowledge, except in the repository of their own minds, and still more of widely diffusing it—for it was unavoidably confined to a small class—their progress was necessarily limited. It was not until the invention of letters, and subsequently of the printing press, that they obtained the means of a sure and indefinite advancement.

Let us now consider in what way and by what means man obtained cultivation and consequent civilization in those periods of the world that were anterior to the invention of letters, for undoubtedly some considerable progress had been made by the people of different nations long before the commencement of the literary era. By so doing the readers of the Journal will be the better able to comprehend my meaning and the ideas I would attach to the term cultivation.

The wants of mankind increased as they themselves increased in numbers, and as their faculties became excited by the necessities of their situation.

Their wants taxed their invention, and gave rise to what we call the common

arts of life. Agriculture and the mechanic arts, but especially the latter taught them to use their faculties and exert their ingenuity. In the pursuit of these arts they had to resort to contrivances, and to consider the adaptation of means to an end. In this way, and stimulated, as I have said, by their necessities, they were compelled to think and reason—to devise plans, to make experiments, to advise and discuss with one another the fitness and expedience of their plans; they had, in short, to learn without the aid of teachers: and this is cultivation, and is that in fact which comprises the essence of all that we effect, but so much more extensively, by modern education—by teaching letters and thus imparting knowledge of every kind which letters have so much accumulated by their instrumentality in preserving and transmitting it from mind to mind. We effect this or we effect nothing; for if by teaching literature and science we do not arouse the faculties into activity, and consequently stimulate the individual to think and reason, what has been learned, if any thing, has only been learned mechanically and by rote as a parrot learns to talk; the memory and not the understanding has been exercised.

I will pursue this train of thought and reasoning a little further, and illustrate the subject by citing my readers to the power which different professions and occupations in life have of developing mind. The lawyer or the physician who has duly studied his profession, has thereby not merely qualified himself for discharging the duties of such profession, but he has gained also many indirect advantages in the greater comprehensiveness of thought which is the necessary result of the exercise of his reasoning faculties, while he was engaged in acquiring his professional knowledge. He has gained that power over the minds of his fellow men which knowledge or cultivated intellect never fails to confer in proportion to the extent of such knowledge or cultivation, and which he would certainly not have been in possession of if he had not' in this or some other way exercised his understanding. In like manner the mechanic, in proportion to the demands which the nature of his art makes upon his thinking powers, will have his mind improved and developed during the time he is engaged in acquiring, and subsequently in exercising his profession. In confirmation of these propositions, I will now institute a comparison between men of different pursuits in life, regarding them in classes according to their different occupations.

The ordinary day laborer who is just taught mechanically to direct his work to a profitable issue, is, in general, the least distinguished for discriminating thought and reflection; he is constantly exposed to the danger of being deceived, because never exercised in the practice of close investigation, or in tracing effects to their causes.

There will generally be found less intelligence or discrimination among those mechanics whose occupations may be denominated *crafts*, than such as are engaged in employments where there is a direct and immediate requisition for scientific information, however inconsiderable. Machinists, mill-wrights, house and ship carpenters, and men of all those professions wherein scientific calculations

are indispensable, will generally be found to possess a soundness of reasoning, and an acuteness of discernment by no means common to artizans whose intellects have not been so exercised. And they will evince this superiority in what relates to general subjects, unconnected with their particular occupations, even when in possession of no other knowledge of the theories of their respective professions, than such as they have acquired from their experience in the practical operations. The mental labor which men so employed are under the continual necessity of exerting, eminently conduces to the making them rational beings. They are accustomed to closeness of deduction, and therefore will not readily become the dupes of error, or be easily imposed upon by ignorance and prejudice. And thus, all those who are concerned in arts to which geometry, mathematical science in general, and chemistry, are directly essential, derive advantages indirectly from these sciences, which, in all that relates to intellectual action, are equally as important as any direct advantages which they can confer.

[TO BE CONTINUED.]

ART. V—ON THE ECONOMICAL GEOLOGY OF THE STATE OF MISSOURI.

NATURE supplies every want essential to the existence of man, but without the arts of civilization the abundance of her resources are only adequate to the support of a limited number of the race.

Impelled by a principle of his nature to multiply and replenish the earth, he was endowed with faculties which enable him to discover, to modify and develop the latent but inexhaustible stores of provision which a benevolent Creator provided for the happiness and support of a destined increase in number. Endowed with a moral nature, the source of social action, his desires and susceptibilities of enjoyment increase in proportion to his acquisition of knowledge. But without the employment of his physical energies and rational powers in the active pursuits of labor, his mental faculties would be useless, his desires vain, and his susceptibilities of enjoyment only continual sources of wretchedness and misery.

The decree which went forth against him at the fall, though it may have been a curse in certain conditions, yet under existing relations may be regarded as the greatest of blessings. A child of earth, he borrows the material elements of his existence from the dust which he treads beneath his feet, and in some measure the elements of his intellectual and moral nature from objects and influences derived from the same source.

Nature furnishes the objects on which his physical and intellectual powers are to be exercised, to the end that they may receive their full development. But in the pride of his heart he looses sight of the humbleness of his origin, his dependence on matter, and scarcely appreciates the high and noble privilege of not only

increasing the means of subsistence, but of improving his facilities of physical and moral enjoyment, "by the sweat of his face." Were he exempt from labor the energies of his body would not only become enfeebled, but those of his mind would remain undeveloped. Indolence would cause the one to lose its healthful vigor, and the other to fall into hebetude for the want of wholesome excitement; were he dependent on the spontaneous productions of the earth alone, he would become a mere microcosm of sensuality, a breathing automaton, without energy of purpose, fertility of invention or skill or forecast in the conduct of life, and his condition would conform to the poetic idea of "a waveless calm a slumber of the dead."

Obedience to the Divine injunction, and the great objects to be attained by labor render it not only honorable, but impress on it a dignity which cannot be effaced by the sickly sentimentality of those who are endeavoring to escape from what they improperly deem a curse.

There is a wisdom in this provision which, it seems to us, is not sufficiently appreciated. It is admitted that it is essentially necessary to happiness to occupy the mind. But to occupy it in the graver and more serious employments of life, or those which are calculated to be useful or beneficial to society, secures more real enjoyment than the vain and frivolous pursuits of the idle and the luxurious, who endeavor to fill up the measure of time allotted to them here, by a continual round of trivial amusements. Yet, with an exhibition of these great truths constantly before us, proving as they do the moral government under which we are placed, we all seem to be struggling to avoid that which can alone render us happy; and hence we require high and powerful motives to action to prevent us from falling into the enticing, but enervating and destructive indulgences of indolence.

Fortunately for us, we live in an age in which new incentives to exertion may be found in tracing back the history of the past, and calling to recollection the brilliant achievements of human art and industry, in modifying and improving the spontaneous resources of nature.

The more docile of the wild animals which once roamed the forests in unrestrained liberty, have been subdued, protected, multiplied, and trained to supply the increasing wants of mankind. The fruit-bearing trees, the grain-growing cereals and other useful plants, modified and improved by culture, have enhanced to a wonderful extent the means of sustaining human life, while the ever varying charms and elegancies of the floral world have contributed to invest it with their poesy.

Man has borrowed from the quadruped, from the insect, the down of the seed and the woody fibre of certain plants the raiment with which he is clothed.

The dust of the earth has been moulded and fashioned, and mansions graced with architectural splendors have taken the place of the gloomy cavern and the humble lodge.

The rocks have been hewn and polished and noble structures and proud monuments rise to perpetuate the glory and renown of time-honored events in the history of the race.

The ores and metals have been fused and wrought into implements of industry wherewith the agriculturist, the manufacturer, the artizan and the laborer have been enabled to supply not only the more essential wants of life, but also its luxuries; and the precious metals, furnishing a medium of circulation, have given an impulse to trade, to commerce, and to international intercourse, which has hastened onward the advance of social progress.

The employment of coal in the production of steam, has changed the whole aspect of society. The steam engine has worked its necromancy and its wonders so long among us that it scarcely now excites our surprize in the extent and variety of the labor-saving offices which it performs. It is the great lever which moves the manufacturing world, and its iron pathways form the bonds which associate and bind together nations the most distant and varied in habits and pursuits.

The electricity which gives vividness to the lightning's flash, has not only been *bottled up*, but made to transmit intelligence from one portion of the globe to another with the rapidity of thought, by which it almost confers *ubiquity* on man.

The ray of light drawn from the sunbeam has not only been divided into its prismatic colors, but has been made to sketch the varied imagery of the landscape and has but scarcely failed to imbue it with the living hues of a perpetual spring.

All this has been accomplished by physical labor under the direction of the higher powers of the intellect; and yet man has taken only a few initial steps in the long and brilliant stages of civilization and refinement which must characterize his progress to his ultimate destiny. Although many of the agencies of nature have been brought in requisition in meliorating and advancing his tendency to social progress, yet he has not found the *ultima Thule* of his aspirations, where he can stand still and fold his hands in idleness and self-complacency and say that I have no other conquests to achieve.

We have been incidentally led into this train of reflection by observing the motto which is placed on the armorial shield of our State. A national motto should not be adopted unless it has a value and a signification as a truth which can be readily appreciated and appropriately applied. "*Salus populi esta suprema lex*" is a maxim the soundness of which may be doubted under given circumstances. In its general application, however, it is in accordance with what may be termed the true and legitimate ends of all good government. The prosperity and happiness of a people should ever constitute the great and leading objects of every wise system of legislation. Individuals and governments may and do differ essentially in regard to the means best calculated to secure these great objects. But the errors which have obtained on the subject, it seems to us, have been the result more of the illusions of men's prejudices and passions than of their sober reason. Hence

we find a factitious character given to our institutions and mistakes made concerning their true nature and legitimate objects, highly injurious to the best interests of society. It may be asked what have many of our State governments done to make known their own internal resources, and to show the people *where* and *how* their labor may be most usefully and profitably employed? What have they done to establish a system of common school education and to abridge the *enlarged liberty* of the people, by compelling the attendance of pupils for at least a portion of the year? And what in connecting with these institutions departments in which practical and solid instruction in the more useful arts and occupations of life may be obtained; instructions in the principles of agriculture and agricultural chemistry—of commerce and navigation—of mechanics and the mechanical arts—of metalurgy and of mining operations—of political economy and the science of government?

Have they not rather suffered the natural resources of their territories to lie concealed in their primeval obscurity—their mineral wealth unexplored—their soils unanalyzed—their prospective agricultural, manufacturing and commercial advantages and interests uninvestigated—and have they not suffered, for the want of proper educational facilities and wholesome systems of internal improvement, much of their population to remain in the blissful ignorance of a Cimerian darkness? To us, most of our State governments present the aspect of expensive controversial institutions, where laws are continually made and repealed—where the supposed "*perfection of wisdom*" sometimes establishes *rules of action* at variance with justice and equity, and even common sense—where the rights of the citizen are often hazarded by innovations and more refined principles of litigation—where new safe-guards are constantly thrown around crime which might have been withered in its growth by drying up the sources which supply it—where additional offices are created in the administration of justice and in the collection and disbursement of the public revenues—where, in fine, the government takes care of itself at the expense of its citizens, whom it is continually endeavoring to delude by professions of an interest in their prosperity and happiness which seems to have been seldom felt or inadequately appreciated.

Is it not time, then, to throw down the warder, and for all good and true men to doff the casque and plume in an unholy warfare, and meet on some common ground, where they can battle for the true principles of legislation, and the great cause of humanity?

In studying the economical geology of a country, the soil naturally claims the first consideration, as it furnishes the elements immediately necessary to human subsistence; as no analysis of the soils belonging to the different divisions of our State have been made, we shall be necessarily compelled to predicate what we have to say in regard to their constitution on their physical properties and our own observation, of the general character of the rocks which underlay them.

A proper admixture of lime with sand alumine, or clay and vegetable mould,

constitutes, as is well known, a productive soil. In one region one or more of these elements may predominate to the exclusion of others, and this may occur in localities immediately contiguous to one another. Again, two soils may abound in the same elementary constituents in the same relative proportions, and one may be productive while the other is comparatively sterile, at least to the same forms of vegetation—a result which is supposed to depend on the superaddition to the one of some noxious inorganic principle which is not contained in the other. All the differences observed in the fertility of the earth, leaving climatorial influences out of consideration, may be referred mainly to these differences in the chemical constitution of the soil.

It is evident from this, that in order to know how to change a soil and give to it the greatest productive value, we must study its nature or composition, by which we learn to supply its defects, to correct its noxious properties, to diminish its excesses, and to adapt it to particular forms of vegetation. The individual and unrecorded experience of the farmer is here scarcely adequate to lead to certain results, unaided by the light which science has more recently thrown in the midst of the darkness which prevailed for so many centuries over this beautiful field of knowledge. In a country so productive as Missouri, where lands are abundant in proportion to the population, a knowledge of the principles of agricultural chemistry may be considered as comparatively useless. But it cannot be regarded in this light by those who look to the future, and do not desire to confer on their descendants habits and propensities scarcely less congenial to social progress than those which characterize the nomadic life of the Caucassian Kalmuk. The fertile lands of our State should not be plundered because they exist in greater abundances than the demands of the present generation seem to require. Neither should they be exhausted because an application of the principles of agricultural chemistry may at some future day redeem them from a sterile condition. The admonitions of sober wisdom would seem rather to enjoin that their productive powers should be husbanded, their latent qualities developed, and their capabilities of sustaining a varied vegetation gradually unfolded.

The soils of all that portions of the State of Missouri north of the Missouri river may be classed in a general manner as belonging to the calcareous and arenaceous groups, the aluminous or those in which clay predominates being seldom found, except of limited extent. The calcareous or those abounding in a large proportion of lime, predominate throughout this region, and furnish immense tracts of fertile and arable land, particularly near the water courses. Of this division of the State, the lands forming its western border along the Missouri river, abound more in calcareous elements than its middle or eastern portions. The productiveness of Clay, Platte and Buchanan counties is equal to that of any similar extent of country on the globe—while many of the interior and western counties are little inferior in fertility. The soils in which sand forms a prominent element, are found on the southern flank of the ascending prairies which commence in the northern

portion of this district and extend to the head waters of the Mississippi river. Here we often find the cold and barren soils of prairie land mingled with the arenaceous deposits of drift which seems to have been swept from the north-east over the surface of this region.

The lands lying immediately below the Missouri river, forming the narrow belt which we have characterized as a prolongation of the Illinois coal-field, presents us with alternations of calcareous and sandy soils. But the silicious materials are here found to result from the disintegration of the sandstones which belong to the coal-bearing strata of the carboniferous group of rocks. These sandstones where they come to the surface alone, impart more or less sterility to the country; but when mingled with a due proportion of lime, resulting from the decomposition of the accompanying limestones, give rise to a productive soil—for many of these limestones abound so much in alumine or clay as readily to furnish this element in its due proportion.

In all countries where the carboniferous limestone underlies the surface, we have in general a soil well adapted to the cereal tribe of plants, or the grasses, including wheat, oats, barley, maize, timothy, blue grass, red top and other grasses—climate and other physical conditions at the same time being favorable. It is likewise well adapted to the production of hemp and tobacco, and in more southern latitudes of cotton and the sugar cane.

In the neighborhood of St. Louis this soil is characterized by its tendency to give out its moisture and dry with rapidity, even after the heaviest falls of rain. This peculiarity cannot be referred to the general elevation of the country above the level of the ocean. It may, perhaps, be attributed to some want of aluminous matter in its constitution, or more probably still, to the general dryness of the wind from the great sandy plains of the west.

The soils, however, differ materially in different portions of St. Louis county. That found on the hilly and undulating sections varies much in its constitution from that of the prairie which extends from a point on the Mississippi river above the residence of Col. Shreve, towards the south nearly to the river Des Peres. The first is quite arenaceous, and abounds in the salts of lime, though it is deficient in alumine and vegetable mould. So deficient is it in the last mentioned element, that strangers, generally judging alone from its physical properties, on first sight suppose it to be entirely sterile. Such, however, is found not to be the case—it evidently possesses organic matter in its constitution, though not in a form to give the dark color generally imparted by mould, as it is very productive in timothy, blue grass, Indian corn, tobacco and many other forms of vegetation. The soil of the prairie is somewhat deficient in silicious and calcareous matters, and abounding in much alumine—is stiff and tenacious as long as it is wet, but cracks much into fissures on becoming dry again. This soil is well adapted to meadows, but requires some exposure and turning up before it becomes as productive as that of the surrounding country.

It is evident to those acquainted with geological changes, that this prairie has more recently appeared from beneath the water than the hilly and undulating districts around it. This is evident from the aluminous and boggy nature of the soil, as well as from the occasional existence of small sloughs now nearly filled up by materials washed from the more elevated lands. It is probable that the Mississippi river, at no very remote period, partly flowed over this surface, and sand-bars forming at each connection with the river converted it into a lake. From a lake it was converted into dry land by depositions from floods, while the wearing of the main channel of the river ultimately left it elevated above the general surface of the water during the period of the highest inundations.

In the mineral region, including most of the country south of the Missouri river, the soils are formed of elements which result from the decomposition of sandstone, syenite and magnesian limestone. Those constituted of the *debris* of the syenite and magnesian limestone are eminently suited to the growth of several of our staples, but owing to the admixture of the oxyde of iron (a mineral very abundant) the fertility of some districts is very much impaired. There are some sections, such as the Bellevue Valley and the valleys of the Merrimack, the Gasconade and the Osage, which are admirably adapted to cultivation. The Merrimack from its extreme sources flows through a most lovely country, small but fertile, and blooming vallies flank even its smallest tributaries, and are hemmed in by low ranges of round backed hills, which are alike well adapted to the cultivation of the grape or to pastoral pursuits.

The more hilly, or mountainous lands, on the head waters of the White, the Eleven Points, the Current, and the Big Black rivers, present us with a thin, sharp soil, resulting from the decomposition of the semivitreous sandstone, which is, in general, unproductive, but supports some of the most magnificent pineries west of the mountains. The intervening vallies are characterized by a very productive soil, resulting from the decomposition of the syenite and magnesian limestones, but are almost too limited in extent for agricultural purposes.

We see then, that unlike most mineral countries, southern Missouri presents every requirement necessary to render it in general, a fine agricultural district. A great draw back on its agricultural advantages is the want of a convenient market. If by any means transportation could be provided for the products of the country, a new impulse would be given to industry, and a rapid development would not only take place in its agricultural, but likewise in its mineral resources.

Subsoils and Clays.—The subsoils and clays of a country general partake, more or less of the *chemical* nature of the soils which are found above them. The alumine, as an element, becomes, however, more abundant, while the silex and the salts of lime are usually much diminished in quantity. But the difference observed to arise from this variation in the relative proportions of these elements, is not the only one; a subsoil or clay generally abounds in much oxyde of iron, a material imparting to it a yellow or red color, which is seldom found to any

considerable extent in the soil itself. Again, though subsoils and clays abound in organic matter, this does not exist in the form of vegetable mould, but as colorless compounds, which cause no variation in their general appearance.

The city of St. Louis is peculiarly favored in the character of its subsoils and clays, which furnish a most beautiful building material. Owing to the great abundance of oxyde of iron and alumine in their constitution, bricks formed of them have a most lively tint of red, and exhibit a fineness of texture and a softness of aspect which we have not observed at any other town built on the surface of the great carboniferous formation of the west. In many of our western towns the bricks have a hardness and harshness of aspect, and a mottled stone-like color which is far from being agreeable to the eye.

These clays are likewise well adapted to the manufacture of pottery, furnishing, when well burnt, a most beautiful stoneware. Variegated clays of a fine quality have been found in the vicinity of St. Louis, and fine beds of fire clay accompany the coal measure a few miles west of the city.

In the mineral district Mr. Woolford has recently discovered, near Caledonia, some kaolins and pipe clays, which seem to be properly constituted for the manufacture of porcelain and earthenware. These have already been noticed in the July number of the Western Journal, and will receive a more special notice when we can find leisure to give them a regular analysis.

Similar clays are said to exist in great abundance near Cape Girardeau. The delf ware manufactured in our city from the clay obtained near Commerce, in Scott county, was of a fair quality. The discovery of these clays may be deemed of great value to the future interests of the State, when a manufacturing spirit shall receive its full development among us.

Rocks—*Limestones.*—A beautiful building material is furnished by the layers of compact carboniferous limestone on which the city of St. Louis is built; the same formation extends throughout the northern division of the State, sometimes appearing at the surface, but more generally covered over by alluvion. Some of the layers abound in a species of cyathophyllum or coral, and when polished would furnish a marble of great beauty, being of a fawn colored ground, on which these white fossils with their delicate lines of organization would be elegantly displayed. If this quarry discovered by H. L. Cobb, Esq., about ten miles southwest of St. Louis, should furnish an abundant supply of this marble, it will prove a valuable acquisition to public taste.

Some of the layers of this carboniferous limestone furnish lime of an excellent quality, and I am induced to believe that some are sufficiently alluminous to form a good hydraulic cement. This limestone becomes oolitic in the neighborhood of Ste. Genevieve, and as such has been used in our city as a building material. As a building stone we do not regard it as being in any way superior to the compact limestones furnished by our quarries. If anything it is more porous and liable to scale from the influence of the weather.

It is much to be regretted that the State House at Jefferson City should have been built of such perishable material as is furnished by the quarries in its immediate neighborhood. This is a fine grained friable silicious limestone, which seems to be easily affected by frost, and already presents rather an unseemly appearance.

Sandstones.—Though sandstones are abundant in Missouri, we know of none which forms a good building material. They are in general too coarse grained and not being well cemented, are entirely too brittle. Some of those found in the mineral region would form excellent flagstones, being hard and semi-vitreous in texture, but are unseemly in appearance from the coarseness of their structure.

Near Ste. Genevieve a most beautiful white sandstone, which is exceedingly friable, is found in the greatest abundance. Experience has proved it to be well adapted to the manufacture of glass; and I am informed that the manufactories of Pittsburgh are now mostly supplied from these quarries.

Porphyry.—The porphyries which abound in the southern portion of Missouri must at some future day be much sought after for architectural and ornamental purposes. Some of them are of a red ground with white crystals disseminated through them, and are susceptible of receiving a high polish.

Syenite.—None of the syenite which covers such an extensive surface in the mineral region, seems to be well adapted to building purposes—it is in general too coarse grained and loose in the adhesion of its particles. From a discovery of graphic granite made by Mr. Woolford, already referred to,* it is probable that this valuable material may be found in considerable abundance.

Primitive Marble, *or Saccharoidal Limestone.*—There are several varieties of primitive marble found in the vicinity of the Pilot Knob, which, if in sufficient quantity, will prove very valuable as the resources of the State become more developed. One of these is white without veins; another is of a beautiful rose color, without any variation in the uniformity of its coloring or texture, and a third which we discovered in the bottom of a creek, is of a fawn color, with white veins traversing it. It seems to form the bed of the creek for a considerable distance, and probably exists in great abundance.

Sulphate of Lime, *or Gypsum.*—This valuable mineral is said to exist in Jackson county, where it forms a regular layer, cropping out on the bank of the Missouri river for a considerable distance. If so, it may prove of great utility to the future agricultural interests of the State.

Coal.—Of all the mineral substances which supply the wants of civil society, none are perhaps of greater value than the bituminous formations which are reposited below the surface of the earth and destined to form the great storehouses of fuel when the forests have disappeared before the regular advances of civilization.

The Illinois coal measure extends west of the Mississippi at St. Louis, and is

*Western Journal, vol. I, p. 398.

probably prolonged through the entire northern division of the State, finding its southern limit in a narrow band extending along the southern bank of the Missouri river.

At Cote Sans Dessein, it assumes the form of *cannel coal*, a variety which possesses less bituminous matter and more carbon than that which is termed bituminous coal.

This may be deemed one of the most important deposits of coal in the west. From an imperfect examination made in this district in 1843, we were inclined to believe that it would be found to constitute an extensive formation. Subsequent discoveries have confirmed this opinion. It has been found at several distant and distinct points in Cole and Callaway counties, and as high as forty miles upon the Osage river. This proves that this formation is by no means very limited in its extent. Some of its layers are, perhaps, of great thickness. One on the Osage had been excavated to the depth of ten feet without penetrating through it. Another, near Cote Sans Dessein, has been, we are informed, penetrated by a shaft twenty-five feet deep with a similar result, which has induced the proprietor to infer that the stratum is here vertical in position. This may be so, as the country around this locality is much broken; but it seems to us that the question could be readily determined by observing the lines of stratification in the coal itself. Even were it, however, only three or four feet thick in its layers the extent of its distribution would render it inexhaustible for at least several centuries.

This coal, on distillation, furnishes an excellent coke, and generates gas of a fine illuminating power. On burning, it leaves but little ash, produces much flame, and being entirely destitute of sulphur, is better adapted to many manufacturing purposes than the common bituminous coal.

We feel satisfied that much of the unhealthiness of the city of St. Louis may be attributed to the inferior quality of the bituminous coal used in our grates and manufactories. It abounds much in sulphur, which on burning, assumes the form of sulphurous acid gas, while much of it is diffused in the atmosphere as sublimed sulphur. This is rendered evident by the suffocative qualities of the air during the winter season, when these agents are most abundantly diffused. The sulphurous acid, as well as the sulphuric formed by its combining with an additional proportion of oxygen in the atmosphere have a strong affinity for water, and when inhaled into the lungs combine with the watery particles which give fluidity to the mucus lining of the air tubes, and thus cause a sense of dryness and suffocation. Though much diluted by the watery vapor of the atmosphere, they act as local irritants on the pulmonary organs, and no doubt materially contribute to swell our bills of mortality.

That free sulphur abounds in our atmosphere is also very evident from the blackening which thermometer scales experience when left at rest for some time in the open air; from the changes which take place in the Dutch silver and even

the gold leaf of our signs when not well sized—as well as from the fact that rain water caught from the eaves of our houses during even the summer months will, when left standing for some time, deposit sulphur on the sides of the vessel. The inhalation of sulphur in this form is not more injurious than that of any other matter in a state of minute division. It is no doubt expectorated or thrown out of the lungs like the fine particles of coal dust with which it is frequently associated. The coal dust imparts to the matter expectorated a black tinge, which some nervous patients have mistaken for an incipient *mortification* of the lungs.

If the cannel coal, which is free from sulphur, and which in breaking does not throw out particles in a minute state of division could be generally introduced into our houses and manufactories, we feel satisfied that it would greatly improve the healthfulness of our city.

The bituminous coal near St. Louis, is not of so good a quality as that procured from the Illinois coal mines. It abounds in much augite and shale, and is too much impregnated with sulphur in the form of iron pyrites to be used to advantage in the manufacture of the metals.

In our next number we will endeavor to present a view of the resources of the State in the ores of lead, copper, iron and other metals.

ART. VI.—THE CULTURE OF HEMP.

The value of hemp as an agricultural staple is materially lessened in this country by the frequent and great fluctuations which occur in its price, especially in districts where it is produced by hired labor.

A certain demand and steady prices for a staple raised for exportation, are essential to the prosperity of the country in which it is grown. The price of a leading staple rules the nominal value of every other kind of property, as well as of labor, and it rarely happens that the grower is a gainer in the end by prices unusually high, while disappointment and embarrassment are the almost certain consequences of a sudden decline. Moreover: high prices stimulate many individuals to enter into the business without the skill or means necessary to ensure success, and by their ill-advised enterprise, the product is enlarged beyond the measure of the demand.

This unsatisfactory condition of the hemp growers would not long continue if they were thoroughly advised of the extent of the demand; for it would be an easy matter for them, through the agency of agricultural societies or clubs, to regulate the extent of cultivation according to the quantity required.

It does not appear from the report of the Secretary of the Treasury that we exported any hemp of American growth in the year ending on the 30th of June, 1847, and until we find a foreign market, there will be little difficulty in ascertaining the extent of the home demand with sufficient accuracy for all useful and practical purposes. Not having the necessary facts in our possession, and desiring to obtain them for the benefit of our readers, we have continued, in every number of the Western Journal, to solicit communications upon the culture of hemp, including the details of sowing, reaping, rotting, breaking, and manufacturing—with an account of the latest improvements and discoveries in each branch, and also, the prospect of extending its uses, and of increasing the demand; and likewise, a description of the soil and location best adapted to its growth. But so little interest do the hemp growers seem to take in this matter, that we have not, until now, received a solitary fact upon the subject, except, in one instance, from a manufacturer of this city, and that was obtained by personal application. This silence on the part of growers, dealers, and consumers, has greatly discouraged us, for we had begun to apprehend that we were looked upon as soliciting information to which we had no right, and officiously meddling with the business of others. But the following communication from a highly intelligent and practical hemp grower, has relieved us, in some degree, from our misgivings; and we design to follow this communication with a series of articles upon the economy of hemp growing in the United States, in which we shall embody all the information that we can obtain upon the uses of hemp, and the extent to which these uses are likely to be decreased; and to the end that we may do justice to the subject, we again solicit those who feel an interest in the matter, to furnish us such facts as they may deem useful. We especially desire to know the quantity of hemp required to fit out a vessel of a given tonnage, including sails and cordage, specifying the quantity required for each, and also, the annual depreciation in the value of this outfit.

To the Editors of the Western Journal:

With a soil peculiarly adapted to the growth of this staple, there are many parts of the Western States that, throwing aside the cultivation of all other agricultural productions, as a source of profit, might thrive and accumulate wealth to an independent extent, by the sole production of this indispensable article of a civilized commercial and moral people. But the idea that a farmer must produce a little of every thing to be a farmer—that he must grow, to some extent, every

product of the earth, that is necessary for the consumption or use of his own family or neighborhood—has, hitherto, contributed in no small degree, to keep the farming portion of the community far behind, in the acquirement of that required agricultural information so indispensably necessary, for excelling in the production of any particular staple of any country. Few bestow their leisure time or attention towards ascertaining the best or most profitable mode of growing to the greatest extent, any peculiar staple, or make it their endeavor to find out what production is best calculated for their lands or situations, and which will yield the best product, at least cost of labor or time. Such may, and probably do, know that a soil which will produce hemp, will also grow tobacco of the finest and heaviest sort, and that a soil which will bring tobacco, of the highest value, cannot grow hemp three feet high. They also know that land which will produce a tolerable good crop of corn or wheat, cannot produce tobacco profitably. This analysis might be farther extended.

The farmer who intends to make hemp his staple production, must not only have the kind of land suitable to its growth, but must also make up his mind to set aside the cultivation of such other of the vegetable productions, as come in contact, or interfere with, the growth of this article. Tobacco and hemp cannot be advantageously grown upon the same farm, unless one set of hands is allotted to each, for the crisis of each crop arrives at the same time. When tobacco is in that state requiring constant attention, the hemp is ready for cutting.

For hemp, the soil must be dry, rich and light. It will no more grow and flourish upon wet land than upon white oak knobs. The best timbered lands for its production are those upon which the natural growth is hackberry and elm. If these kinds prevail, particularly hackberry, with an undergrowth of pawpaw and hazel, it matters not what other varieties of timber are scattered throughout. Large grapevines, intertwining themselves among the branches of the trees, are always a concomitant of such a soil. Upon such a spot the first thing to be done is to grub up the undergrowth, taking all the roots possible with it. This should take place during the year previous, for, to leave new land in suitable order for hemp, it must be commenced upon the year before it is intended to be cultivated, as much of the timber must then be fell as possible, and all that is not made into rails, burnt up in heaps, or removed from the ground for other purposes. What timber is not removed should be belted with the axe, and, to insure its death, this should be done between the 15th June and 1st July.

Having removed the timber, to the extent intended, and burnt the brush, the sod is ready for the plough. It is best for an axeman (or boy) to accompany each plough, that whenever a root is struck it may be severed and thrown out, thus permitting the plough to pursue its course unobstructed. I have found the "Uncle Toby" Peoria Plough far preferable for turning the sod to any I have used. In fact I have never seen a plough that I liked as well for any kind of ploughing. After getting a close ploughing the ground ought to be well harrowed with a heavy

iron teeth harrow, and if the tool is not sufficiently heavy to tear the sods to pieces, it should have the addition of a log of wood lashed on it. It should then be cross-ploughed again and harrowed as before. Land cannot be too well broken up and pulverized for a crop of hemp to succeed well. Every lick it gets will improve its production.

Presuming a field, intended for hemp, to have been thus prepared during the previous year, it will be proper, as soon after the spring opens as practicable, to again turn it over and harrow it for the season's crop. The breaking up or turning of the surface of cultivated land, either by the plough, spade, or hoe, for the reception and growth of seeds, is a process so universally practised, and withal, so indispensable for the fructification and growth of the crops intended to be raised thereon, that it may be deemed incredible that such a common and simple affair should not be universally understood; and yet it cannot be doubted that many and frequent mistakes are made in this matter. Suffice it to say, that there is no crop grown, requiring such an absolute fineness and complete pulverising of the soil as hemp, and none that will pay as well for the work put on it. And this work cannot be carried on in a wet time. The earth cannot be put in the required order unless dry. Better do nothing than disturb its rest when in a wet or clammy state. No matter how wet the sod is when first turned over, but I speak of the ground after it has been placed in a state of preparation by the plough and harrow. The pernicious effects of stirring prepared or cultivated land when wet, not only destroys the growth of the *first*, but also of that of *several successive years*. Hemp ground thus prepared should not have a hoof of any kind pass over it.

Having, then, put the soil of the hemp field in the order specified, it may be laid off in lands sixteen or eighteen feet wide, with a log-chain made fast to the single-tree, and dragged after a single horse. When lands are laid off by a plough, although shallowly, for the sowing of seed of any kind, especially hemp seed, there is an inclination of the seed for the furrow, and it comes up in streaks. A harrow will follow the sower. The seed is sown broad-cast, at the rate of one and a half bushels to the acre. When sown thicker, the seed may be considered as thrown away—worse than lost—for all over this, will produce an undergrowth of hemp, smothered by the strong, thrifty stalks, which will be in the way of cutting, handling and breaking, and too short to amount to any thing except an impediment to the hands. I have tried it.

A dry or wet season setting in, soon after the sowing of hemp seed, is unpropitious for its full development—the dry season withholding a due moisture from the seed, thus preventing its germination; the wet, packing the soil hard, to be baked by the sun, when it exerts its influence. If the first two or three weeks is seasonable, the crop is as good as made. Whenever a crop has come up well, and passed the first three weeks in growing order, the leaves keep the moisture from being evaporated from its roots, by the sun, and the larger it gets, the better

order it keeps itself in. A drought seldom, if ever, hurts hemp a month old. To insure a heavy crop, the seed should be sown as early in April as practicable, taking into view the weather, as well as the preparation of the ground, for, although I have seen a good crop raised from seed sown in May, it is the universal opinion of those with whom I have conversed upon the subject, (sanctioned by my own experience,) that the sooner it is sown after the frost is from the ground, and it is in suitable order for ploughing, the better. Fine crops have been produced from March sowing. It is seldom, if ever, injured by frost. I never heard of the happening of such a circumstance.

Regarding seed, there is a diversity of opinion. I prefer that grown during the previous year, upon stalks cultivated as corn, for the sole production of seed, rather than of the growth of any preceding year, or from small hemp, unsuitable for cutting, left in the field. Old seed is uncertain. I have known a good crop, (1000 lbs. per acre,) produced from such seed, and I have known it fail altogether. Much, if not all depends upon the manner in which seed has been kept over. If it was well dried when got out of the chaff, and not permitted to get heated in large bulks, I presume it would germinate and thrive as well as any other. I think it safest, and of course best, for every farmer to raise his own seed—he then knows what he is doing, and what calculations to make for a crop. The pulp of the hemp seed may appear sound and fresh, and still it may not sprout. The seed sown should be run through a wheat-fan until all the chaff and whitish looking grains are exterminated.

When you are ready to commence sowing, should the earth be dry, and there exists little appearance of rain soon, I think it best to *plough in* the seed with a one horse plow—either share or shovel, and then harrow thoroughly, leveling the land throughout.

Hemp seed sown upon the kind of land designated, well prepared, will, in a common season, produce ten or twelve hundred pounds of the clear article, per acre.

I will recapitulate. For the successful growing of hemp, it is indispensable,

1st. To select a *rich, dry soil.*

2d. To sow *good, clean seed, early, and at a seasonable time.*

3d. To plough or harrow in (or both,) the seed, as the soil and season seem to require. But, although every thing else is done, if the ground is not *fine* enough, and clear of roots, trees, (which shade, particularly,) and turf, a good and productive crop must not be expected.

It must, however, be borne in mind, that hemp will not do well in old worn out ground, unless it be first deeply ploughed, (say ten or twelve inches,) and sowed down in clover, to remain two years, and then turned over in the fall and permitted to remain a year more. It may then be turned over in the fall again, and remain until spring, when it is easily put in good order for hemp. Soil, *once rich,* will grow a first rate crop of hemp after being treated in this manner. I speak

experimentally. Neither will hemp grow well after a small grain crop of any kind. This fact has been fully tested. But after corn and tobacco, if these crops have been well and cleanly cultivated during the previous year, it quickly shoots up and grows rapidly and luxuriously; smothers down everything else, and arrives at maturity in August or September, according to the time of sowing. However late it may have been sown, hemp will always be ready for cutting in August, though it *will* wait for you a little longer.

For cutting hemp, some farmers use the cradle, and some the hook. With the former the common work for a hand is an acre per day—with the latter one half an acre or less. Where the growth is not over eight feet in height, it is thought best, by some, to cradle, but when higher, the hemp-hook is generally used. In fact, hemp ten or twelve feet high, cannot be cradled to advantage, and laid straight enough to handle with convenience. I use the hook always, from the conviction that more is saved in the article than is lost in the time. An inch at the bottom is worth a foot at the top, and, where the cradle is used the hemp cannot be cut so low as where it is cut with the hook. I have never yet seen the cradler who could cut as close to the ground as a hooker, nor is the hemp generally laid so well by the former as by the latter.

That the color of the hemp may be bright it should lay in the swath until a rain has occurred. The leaves then come off easily and the color is brighter. It is then put up in shocks, where it remains until the heat of summer has passed by—say October—when it may be spread for rotting. This is most conveniently done upon the ground from which it grew, which affords ample space. As soon as it is sufficiently rotted to permit the woody substance or pith to be easily broken, and seperated from the bark or lint, it should be taken up and again put in shocks, from which it is broken out in dry weather, during the winter.

Some farmers *stack* their hemp from the swath, and let it remain in that situation until rotting time, under the impression that hemp thus managed produces a brighter and better article. I doubt it, but of one thing am satisfied—that this process costs double labor, and that at cutting time, when it can be hardly spared. In the cultivation of hemp, seven or eight acres to the land is all sufficient.

Many machines have been invented and brought forward for the breaking of hemp, but I have never yet seen one that, taking into consideration time, expense and the manner of cleaning out the fibre, equalled the old fashioned hand-brake. Latterly, however, I have read an account of "Williams' Hemp-breaking Machine," which is said to be superior to any other yet invented, both regarding economy and good work. I hope it may succeed.

The staple of western hemp is equal to that of any other, and that it may meet a good and certain market, it is indispensable that it be clear of all foreign substances—the clear article—well prepared and baled in such order as to secure its transportation to any part of the world. J. T. CLEVELAND.

Hazel Ridge, Mo., July 12, 1848.

ART. VII.—THE RISE, PROGRESS, AND INFLUENCE OF THE FINE ARTS.

BY ALFRED S. WAUGH, ESQ.

ARCHITECTURE.

ALTHOUGH it is supposed by some writers that the Hindoos and Phœnecians preceded the Egyptians in the pursuit of the Fine Arts; yet, as it is universally admitted that they were the first people who erected architecture into a science, we shall take that dark and mysterious land as the field wherein to begin our researches. Among the subjects of the Pharaohs, Architecture, like all other works emanating from the creative sources of the mind, became under the control of the hierarchy, a powerful agent in the service of a religion whose influence, at once omnicient and fascinating, pervaded every condition of men, regulating and controling every employment, from the regal exercise of the sceptre down to the minutest occupation of domestic privacy; lending its massive grandeur to the perfect subjugation of the human intellect. The absolute control aimed at by her priests, rendered it necessary to make the Architecture of Egypt subservient to their successful despotism. Hence, those essences in the sublime, *terror! gloom!* and *obscurity!* which we find in all their public buildings, gave to this art a distinctive character far more imposing than those of any other people. The mythological tenets of their religion were stamped with an indelible hand upon all they did, and this beautiful art, which afterwards, in Greece, displayed its immense and captivating powers, remained for centuries in the same state in which the Greeks found it on their first acquaintance with Egypt. These, although nationally of a more modern date than the inhabitants of the valley of the Nile, with that quick perception of the grand and beautiful which naturally belongs to a nation breathing the heavenly air of freedom, looked at their stupendous structures, not for the purpose of producing servile copies, but of giving free scope to their creative powers, and exercising those faculties which most unquestionably prove the divinity of man's origin—taking the works of this wonderful people as a superstructure whereon to build, soon raised on their foundation an art of such sublimity as to cast its ennobling influence o'er all the land, imparting a soft and humanizing charm to the very people who gave it existence.

Under the guidance of the gifted sons of Greece, it at once rose to intellectual maturity, towering aloft, not for the purpose of o'ershadowing the intellect with a mantle of supernatural gloom—enslaving with the most apalling manacles the innate spirit of the divinity—but of developing the noblest qualities of man's nature, and drawing forth grateful adoration of the attributes of a host of imaginary deities who were supposed to preside over the destinies of the human race.

Some of the essentials of the *sublime* pervaded all the works of the Egyptians, but it was reserved for the Greeks to embody the whole in their works of "fine intelligence." If the Greeks had been content to be mere copyists, or, perhaps,

imitators, the crowning glory of perfect art, *the Parthenon*, would not have arisen to adorn that classic land, or cast the immortal lustre of its faultless symmetry over the minds of succeeding generations. Its matchless beauty would never have had even a conception, to say nothing of an existence. It would but have lived under the shadow of its prototype's greatness, and at best have fallen short of its terrific grandeur.

In the intricacies of the labyrinth, our wonder and admiration are raised, not at the contemplation of its *beauty*, but its sublimity in the three thousand spacious halls, and chambers; imbued as they are with the omnipotent spirit of religion, you behold indeed the triumph of human industry, and its very elaboration serves to depress the soul into a slavish dependence on man, but fails to raise him a single step above the earth on which he stands. In the vast conceptions of the pyramids, although called by Strabo "barbarous works of sinful labor," we see a mighty evidence of the transcendent powers of mind. The agency of the laws of mechanics is not the first object that arrests the attention, wonderful as they are, they sink into comparative insignificance; our first emotions are raised at the God-like intellect that gave birth to the idea of such works, giving as they do, the almost perfect impressions of endless durability; works which have lasted for ages, and still seem destined to continue to the uttermost limit of the very globe which they inhabit.

"There can be no doubt," says the Rev. Dr. Russel, after having alluded to the great care observed in the mummyfication of the body, "that Egypt was indebted to the religious speculations of her ancient sages for those sublime works of architecture which still distinguish her above all the other nations of the primitive world."

"It must at the source be acknowledged," continues this author, "that in all countries comparatively rude; vastness of size takes precedence of all other qualities in architectural arrangement."

On the decline of the Arts in Greece, they arose in Italy, and shone with nearly equal splendor,* until a more humanizing form of religion changed the style of Architecture, and, in accordance with the refulgence of christianity, the light of Heaven was more freely admitted into her sanctuaries.

The great church of St. Peter's, in Rome, the most famous christian temple in the known world, stands alone in its grandeur, and seems to say,

> "They dreamed not of a perishable home,
> Who thus could build."

*"In the early period of the Empire," says Bloxam, "the Romans who derived their knowledge from Greece, imitated the Greeks to a certain extent in their public buildings of magnitude. Some of the constructive and decorative features of Roman Architecture were, however, different from those of pure Grecian design; and a a style was formed more meretricious in effect, and of greater richness in detail, but wanting in the chaste simplicity and severe grandeur of the Grecian art."

The Gothic churches of the early and middle ages, richly adorned with

"Slender shafts of shapely stone,"

And

"The long drawn aisle and fretted vault."

echoed to the solemn anthem of the living God. The groined arches and stained glass windows of this beautiful order, created an atmosphere of reverence, which, without striking terror, assisted the worshipper in his devotional exercises.

"The irregularity of medieval buildings, united as it is with much apparent complexity, is apt to make a mere superficial observer imagine that such designs are not the result of that consideration and forethought exhibited in the works of classical antiquity; but this conclusion is very far from being correct, for although Gothic architecture adopted forms and laws which are the reverse of the ancient ones, it introduced new principles as fixed and true, as full of unity and harmony, as those of the previous system."†

A distinguished poet says, "the Greeks reared a structure which in its parts, and as a whole filled the mind with the calm and elevated impression of perfect beauty and symmetrical proportion. The moderns also produced a whole, a striking whole, but it was by blending materials and fusing the parts together."

In the wonderfully elaborate and vast cathedral churches of England, no expense seems to have been spared by those who reared them, the only thought or care seems to have been to exhaust the store-house of invention in the construction of buildings which would every way be worthy of being a christian temple and of the acceptance of HIM in whose worship they were intended to assist. The grandeur of design, boldness of execution, and perfect harmony throughout may well be termed sublime, and proves them not altogether unworthy of the poetical appellation bestowed on them by Coleridge when he called them

"The petrefactions of our religion."

[ARCHITECTURE CONCLUDED IN THE NEXT.]

†Anglican Church Architecture, by James Barr, Architect.

FOSSIL REMAINS.—We have been shown a mammoth tooth, recently found near Sulphur Springs, four miles south-west of Louisiana, weighing 8½ pounds. It is of a bluish cast, and in a petrified state, and when found was embedded in the earth with the grinding surface exposed. The teeth of the monster of which this is a part, must have weighed over two hundred pounds—its head several thousand. The animal, we suppose, was one of the earliest inhabitants of the Mississippi Valley, and was well calculated for traversing its majestic rivers, prairies and forests. The tooth is in the possession of Dr. V. W. Emmerson of this town. —*Pike County (Mo.) Banner.*

COMMERCIAL STATISTICS.

IMPORTS INTO ST. LOUIS.

We give below a comparative table, showing the receipts of the principal articles of produce and groceries, at the landing in this city, from the 1st of January to the 1st of July, for the years 1846, 1847, and 1848, which we make up from our files, and which we believe to be as nearly correct as can be arrived at. In it is not included the direct shipments of produce from points above for New Orleans and the Ohio river, or any that is brought in by wagons; consequently it does not exhibit by any means all that is brought into our market. Had we any means of ascertaining, with any degree of accuracy, the amount of exports from this city, it would exhibit a much larger amount and more satisfactory evidence of the extent of our trade.

	1848.	1847.	1846.
Tobacco, hhds,	4,701	3,460	5,338
Hemp, bales,	24,831	59,647	21,282
Lead, pigs,	338,618	358,528	420,352
Flour, barrels,	150,979	235,374	113,316
Wheat, bush,	938,252	1,644,429	1,200,871
Corn, do,	240,028	844,673	427,259
Oats, do,	161,010	162,665	
Rye, do,	3,840	2,212	3,247
Barley, do,	65,036	28,198	13,641
Beans, bbls,	2,340	3,200	2,283
Sacks,	1,267	2,382	700
Flaxseed, bbls,	6,418	3,555	1,790
Fruit,* bbls,	5,997	7,550	3,374
Sacks,	2,960	8,361	1,088
Potatoes, bbls,	900	1,820	2,733
Sacks,	47,420	19,330	19,906
Pork, bbls,	68,455	35,992	43,621
Half bbls,	943	250	39
Beef, tierces,	3,415	1,162	
Bbls,	2,295	2,386	12,202
Half bbls,		192	126
Bacon,† casks and tierces	26,505	11,450	9,052
Bbls and boxes,	4,481	1,090	457
Bulk meat,† lbs,	6,625,244	2,522,418	700,430

Lard, tierces,	3,482		
Bbls,	70,912	28,293	23,537
Kegs,	9,544	7,175	12,269
Butter, bbls,	666	610	547
Kegs, firkins, &c.,	1,946	1,290	1,565
Cheese, casks,	22	53	270
Boxes,	3,142	2,379	5,463
Tallow, tierces and casks	121	40	105
Bbls,	287	171	916
Beeswax, bbls,	325	315	338
Packages,	382	460	374
Beef hides,	40,443	42,836	50,267
Whisky, bbls,	17,065	13,638	15,705
Sugar, hhds,	17,500	8,136	8,042
Bbls and boxes,	5,784	11,517	2,493
Molasses, hhds. and tierces,	153	368	
Bbls,	19,215	4,707	8,580
Coffee, bags,	33,556	30,296	42,913
Salt,‡ sacks and bags,	118,472	58,150	70,682
Bbls,	14,379	11,602	35,135

* Including green and dried apples and dried peaches.
† Including bacon and pork in salt.
‡ Including Liverpool, Turk's Island, Cadiz, &c.

DOMESTIC EXPORTS OF THE UNITED STATES DURING THE YEAR 1847.

Summary statement of the value of the Exports of the growth, produce, and manufacture of the United States, during the year commencing on the 1st day of July, 1846, and ending on the 30th day of June, 1847.

		Whalebone,	671,601
THE SEA.		Spermaceti candles,	191,467
Fisheries—			
Dried fish, or cod fisheries,	$659,629		$3,468,033
Pickled fish, or river fisher-		THE FOREST.	
ies, (herring, shad, sal-		Skins and furs,	747,145
mon, mackerel,)	136,221	Ginseng,	64,466
Whale and other fish oil,	1,070,659	Product of wood—	
Spermaceti oil,	738,456	Staves, shingles, boards,	

hewn timber,	1,849,911
Other lumber,	342,781
Masts and spars,	23,270
Oak bark and other dye,	95,355
All manufactures of wood,	1,495,924
Naval stores, tar, pitch rosin, and turpentine,	759,221
Ashes, pot and pearl,	618,000
	$5,996,073

AGRICULTURE.

Product of animals—	
Beef, tallow, hides, horned cattle,	2,434,003
Butter and cheese,	1,741,770
Pork, (pickled,) bacon, lard, live hogs,	6,630,842
Horses and mules,	277,359
Sheep,	29,100
	$11,113,074
Vegetable food—	
Wheat,	6,049,350
Flour,	26,133,811
Indian corn,	14,395,212
Indian meal,	4,301,334
Rye meal,	225,502
Rye, oats and small grain and pulse,	1,600,962
Biscuit, or shipbread,	556,266
Potatoes,	109,062
Apples,	92,961
Rice,	3,605,896
	$57,070,356
Tobacco,	7,242,086
Cotton,	53,415,848
Wool,	89,460
All other agricultural products—	
Flaxseed,	1,346
Hops,	150,654
Brown sugar,	25,483
Indigo,	10
	$177,493

MANUFACTURES.

Soap and tallow candles,	606,798
Leather boots and shoes,	243,816
Household furniture,	225,700
Coaches and other carriages,	75,369
Hats,	59,536
Saddlery,	13,102
Wax,	161,527
Spirits from grain,	67,781
Beer, ale porter, and cider,	68,114
Snuff and tobacco,	658,950
Linseed oil and spirits of turpentine,	498,110
Cordage,	27,054
Iron—pig, bar and nails,	168,817
castings,	68,889
all manufactures of,	929,778
Spirits from molasses	293,609
Sugar, refined,	124,824
Chocolate,	1,653
Gunpowder,	88,397
Copper and brass,	64,980
Medicinal drugs,	165,793
	$4,612,597
Cotton, piece goods—	
printed and colored,	281,320
white,	3,345,082
nankeen,	8,794
twist, yarn and thread,	108,132
all other manufact's of,	338,375
	$4,082,523
Flax and hemp—	
Cloth and thread,	477
Bags and all manufact's of,	5,305
Wearing apparel,	47,101
Combs and buttons,	17,026

Brushes,	2,967	Gold and silver coin,	62,620
Billiard tables and apparatus,	615	Artificial flowers and jewelry,	3,126
Umbrellas and parasols,	2,150	Molasses,	26,959
Leather and morocco skins not		Trunks,	5,270
sold per pound,	29,856	Brick and lime	17,623
Fire engines and apparatus,	3,443	Domestic salt,	42,333
Printing presses and type,	17,431		
Musical instruments,	16,997		$4,692,403
Books and maps,	44,751	Lead,	124,981
Paper and stationary,	88,731	Articles not enumerated—	
Paints and varnish,	54,115	Manufactured,	1,108,984
Vinegar,	9,526	Other articles,	1,199,276
Earthern and stone ware	4,758		
Manufactures of glass,	71,155		$2,308,260
tin,	6,363	Government stores to the army,	
pewter & lead,	13,694	from New York,	326,800
marble & stone,	11,220		
gold & silver		Grand Total,	$150,637,464
& gold leaf,	4,268		

RECAPITULATION.

The Sea,	$3,468,033	ducts,	177,493
The Forest,	5,996,073	Manufactures,	9,305,000
Agriculture,	11,113,074	Lead,	124,981
Vegetable food,	57,070,356	Articles not enumerated,	2,308,260
Tobacco,	7,242,086	Government stores to the army,	
Cotton,	53,415,848	from New York,	326,800
Wool	89,460		
All other agricultural pro-			

WOOL TRADE OF MICHIGAN.

In noticing the great increase in the production of wool in the State of Michigan, we are naturally led to inquire, why it is that the Lake region is so rapidly outstripping the Valley of the Mississippi in this branch of husbandry. We have doubtless a climate altogether as favorable for sheep, as that of Michigan; and when we reflect that every product of the field is cheaper here than in the vicinity of the Lakes, and that extensive districts in Missouri, especially, are so remote from market that scarcely any kind of grain will bear transportation, we are at a loss to perceive the reason that wool growing has been so much neglected by our farmers. We should feel ourselves under an obligation to any experienced farmer of the west who will favor us with facts upon this subject.

By reference to the imports into St. Louis for the four years ending the 31st of December, 1847, we find the quantity of wool received reported as follows: 1,377 bales in 1844; 1,899 bales in 1845; 1,903 bales in 1846, and 2,107 bales in 1847.

The following statement from the Detroit Free Press, shows the quantity of wool exported from Michigan in 1841 and for four years ending with 1847:

"The shearing season is now near at hand in this State, and a short review of the past may not be uninteresting. Our surplus is augmenting. There was shipped from the State in

1841,	23,000 lbs.
1844,	256,407
1845,	412,081
1846,	716,587
1847, a little over	1,000,000

We have taken some pains to ascertain the quantity exported from each port to the 31st of December. We here give it:

	1846.	1847.
Detroit,	506,103 lbs.	760,716 lbs.
Monroe,	84,426	153,400
St. Joseph,	4,000	15,400
Toledo—from Michigan,	124,060	86,300
Trenton,		1,000
Grand Haven,		1,000
Mount Clemons,		30,000
St. Clair,		6,000
Newport,		400
	716,587	1,054,216
Exported since opening of navigation,		40,000
Total exports of 1847,		1,094,216 lbs.

"In the Free Press of July 5th last, we estimated the crop of the State at 1,600,000 lbs., and put down for home consumption 500,000 lbs.; surplus for export 1,100,000 lbs.

"The returns of exports from the custom-house here, and shipments at Toledo, up to this time, make the amount less than 5,000 lbs. of our estimate.

"The great number of sheep that have been driven into the State the past season, and the natural increase, will probably give us a surplus of 1,600,000 lbs. the present season."

BANK REPORT.

Aggregate State of the Bank of the State of Missouri, and its Branches, on the 30th June, 1848.

RESOURCES.		LIABILITIES.	
Bills discounted,	$1,677,898 24	Capital stock paid in:	
Exchanges matured,	141,557 75	Owned by the State $954,205 22	
Exchanges maturing,	462,256 26	Owned by individuals 251,962 92	
State of Missouri, (acc't. current)	107,311 34		$1,206,168 14
Loan to State of Missouri, (to pay volunteers,)	4,276 93	Due depositors,	1,639,880 60
Bills receivable, (sale of real estate)	51,909 66	Unclaimed dividends,	867 73
Real estate,	126,260 72	Interest and exchange,	187,567, 41
Suspended debt,	18 ,232 48	Contingent fund,	110,898 28
Expense account,	14,311 88	Suspense account,	17,222 20
Protest account,	51 43	Circulation,	2,119,590 00
Due from Banks,	22,407 31	Due to banks,	191,405 73
Bank notes on hand of other Banks,	46,550 00		$5,473,600 09
Certificates Banks of Illinois,	192,013 33	H. SHURLDS, Cashier.	
Warrants on State Treasurer, Mo.,	61 62		
Gold and silver coin on hand,	2,445,741 14		
	$5,473,600 09		

State of the Bank of the State of Missouri, on the 30th June, 1848.

RESOURCES.		LIABILITIES.	
Branch at—		Capital stock paid in—	
Fayette for capital, $120,058 84		Owned by the State, $954,205 22	
Palmyra for capital, 120,058 84		Owned by individuals, 251,962 92	
Jackson, for capital, 120,058 84			$1,206,168 14
Springfield, for capital, 120,058 84		Due depositors,	1,523,877 98
Lexington, for capital, 120,058 84		Unclaimed dividends,	867 73
	$600,294 20	Interest and exchange,	148,906 52
Bills discounted,	848,458 86	Contingent fund,	110,898 28
Exchanges matured,	108,996 90	Suspense account,	17,222 20
Exchanges maturing,	234,166 05	Circulation,	1,100,600 00
State of Missouri, (account current)	107,311 34	Due to banks,	186,238 75
Loan to State of Mo., (to pay volunteers,)	4,276 93		$4,294,779 60
Bills receivable, (sale of real estate,)	51,969 66	H. SHURLDS, Cashier.	
Real estate,	55,620 90	St. Louis, 30th June, 1848.	
Suspended debt,	102,197 25		
Expense account,	6,731 48		
Protest account,	22 43		
Due from banks,	13,454 54		
Certificates banks of Illinois,	192,013,33		
Warrants on State Treasurer Mo.,	61 62		
Gold and silver coin on hand,	1,966,204 11		
	$4,294,779 60		

State of the Branch of the Bank of the State of Missouri, at Fayette, on the 30th June, 1848.

RESOURCES.		LIABILITIES.	
Bills discounted,	$145,876 14	Bank State of Missouri, for capital,	$120,058 84
Exchanges maturing,	89,448 76	Due depositors,	17,205,03
Real estate,	24,762 37	Interest and Exchange,	9,217 59
Suspended debt,	3,540 65	Circulation,	227,430 00
Expense account,	1,816 37	Due to banks,	1,310 68
Protest account,	4 55		$375,222 14
Bank notes on hand of other banks,	6,070 00	WM. C. BOON, Cashier.	
Gold and silver coin on hand,	103,703 30	Branch Bank State of Missouri, Fayette, 30th June, 1848.	
	$375,222 14		

State of the Branch of the Bank of the State of Missouri, at Palmyra, on 30th June, 1848.

RESOURCES.		LIABILITIES.	
Bills discounted,	132,631 81	Bank State of Missouri, for capital,	$120,058 84
Exchanges matured,	32,556 79	Due depositors,	16,922 16
Exchanges maturing,	13,396 45	Interest and exchange,	6,236 27
Real Estate,	14,429 35	Circulation,	200,600 00
Suspended debt,	34,115 03		
Expense account,	1,669 56		$343,817 27
Protest account,	5 85	S. D. SOUTH, Cashier.	
Bank notes on hand of other banks,	32,230 00	Branch Bank State of Missouri,	
Gold and silver coin on hand,	82,782 43	Palmyra, 30th June, 1848.	
	$343,817 27		

State of the Branch of the Bank of the State of Missouri, at Jackson, on 30th June, 1848.

RESOURCES.		LIABILITIES.	
Bills discounted,	$203,913 75	Bank State of Missouri for capital,	$120,058 84
Exchanges maturing,	5,000 00	Due depositors,	$15,176 81
Exchanges matured,	4 06	Interest and exchange,	6,237 54
Real Estate,	5,105 14	Circulation,	195,300 00
Suspended debt,	8,687 75	Due Bank State Missouri, (account current,)	3,052 45
Expense account,	1,222 44		
Protest account,	19 60		$339,925, 64
Bank notes on hand of other banks,	4,220 00	T. B. ENGLISH,	
Gold and silver coin on hand,	111,752 90	Cashier Branch Bank State of Missouri.	
	$339,925 64	JACKSON, 30th June, 1848.	

State of the Branch of the Bank of the State of Missouri, at Springfield, on the 30th June, 1848.

RESOURCES.		LIABILITIES.	
Bills discounted,	$161,709 46	Bank State of Missouri for capital,	$120,058 84
Exchanges maturing,	36,510 00	Due depositors,	30,065 07
Real estate,	9,579 00	Interest and exchange,	6,473 50
Suspended debt,	15,555 65	Circulation,	158,370 00
Expense account,	894 55	Due Bank State of Missouri (account currency,)	803 85
Bank notes on hand of other Banks,	2,640 00		
Gold and silver coin on hand,	88,872 60		$316,761 26
	$315,761 26	JAS. R. DANFORTH, Cashier.	
		Branch Bank State of Missouri,	
		Springfield, 30th, June, 1848.	

State of the Branch of the Bank of the State of Missouri, at Lexington, on 30th June, 1848.

RESOURCES.		LIABILITIES.	
Bills discounted,	$185,308 22	Bank State of Missouri for capital,	$120,058 84
Exchanges maturing,	83,735 00	Due depositors,	36,643 55
Real estate,	13,763 96	Interest and exchange,	10,395 99
Suspended debt,	16,836 15	Protest account,	1 00
Expense account,	1,977 48	Circulation,	237,290 00
Due from Banks,	8,952 77		
Bank notes on hand of other banks,	1,330 00		$404,389 38
Gold and silver coin on hand,	92,425 80	WM. LIMRICK, Cashier.	
	$404,389 38	Branch Bank State of Missouri,	
		Lexington, 30th June, 1848.	

MANUFACTURES IN ST. LOUIS.

LEAD PIPE AND SHEET LEAD MANUFACTORY, COPPER WORK, BELL AND BRASS FOUNDRY, STOVES, TIN, ETC.

We believe that there are but few individuals, even in our own city, who have made themselves acquainted with the nature and extent of its manufactures; for, although they are of recent introduction, yet there is scarcely an article that enters into the economy of the country, from a bottle cork to the largest class of steam boats, that cannot be furnished to order by our manufacturers and artizans of St. Louis. And many of our establishments, if they had existed in the eastern cities fifteen years ago, would have been exhibited by the citizens there, as monuments of extraordinary enterprise.

In our visit to the various manufacturing establishments of St. Louis, we have seen none that evinces more enterprise on the part of the proprietors, or more completeness in all its arrangements, than that of Messrs. Burd, Rucker & Co., at No. 45 Main street.

This establishment consists of a very extensive tin department—a copper department where are manufactured all kinds of copper work for fitting up steamboats, mills, distilleries, &c.—a *bell and brass foundry*, where church, steamboat, tavern, and fire engine bells of every size, from ten to one thousand pounds in weight, are cast, of splendid finish, and are said to be equal in tone to any that are brought to this market. The stove department is very extensive, and embraces almost every article in use in that line, including the celebrated imperial air-tight cook stove; and also an excellent article for heating churches. And moreover, they are extensively engaged in manufacturing sheet lead and lead pipe, large quantities of which are shipped to points on the Ohio, Missouri, Illinois, and the Upper and Lower Mississippi rivers; while they are also extensively engaged in laying their leaden pipe in the city, for the purpose of conducting water through the streets, dwellings, &c.

The business transacted under the direction of the proprietors of this establishment is, perhaps, equal in variety and extent to that of any other of the same kind in the United States, and we are gratified to learn, that thus far, the results have been satisfactory.

In noticing this establishment, we use the occasion to again call the attention of the people of the west to the importance of encouraging our own manufacturers; for this is the only way by which they can secure a permanent market and remunerating prices for the products of the soil. Mercantile facilities, though of great importance, can never give permanent prosperity to the country without the agency of the manufacturer and the artizan. These, with the laborers connected with their operations, constitute the principal consumers of the surplus products of agriculture, and wherever these are located, there a demand must

necessarily exist, and if located in our midst, we then have the advantage of a market free from the competition of foreign producers—an advantage which we never can possess so long as our markets remain at the distance of from one to three thousand miles.

PORTABLE SAW-MILL MANUFACTORY AND MACHINE SHOP.

Messrs. R. CLARK & Co., proprietors of this establishment employ from twenty to thirty hands and use about fifty tons of bar iron and about one hundred tons of cast iron annually. Their mills are being extensively introduced throughout the west and southwest, and we are informed that the demand is rapidly increasing. In their advertisement they say their mill "is simple in construction, and easily kept in order, and can be moved on wagons as readily as a thrashing machine. It will saw from one to two thousand feet of common lumber per day, with one team of six horses, as an average business—and in better style than any other mill now in use. It is equally well adapted to steam, water, or horse power." The appointments of the shop are sufficient to make one of these mills daily. They also manufacture machinery for fitting up mills of every description, and from the extent of their establishment are able to fill all orders with promptness and despatch.

The portable saw mill is admirably adapted to the wants of new or thinly settled countries, where the demand for lumber is not sufficient to authorize the erection of more costly establishments, and the proprietors have shown good judgment in selecting St. Louis for the location of their establishment; for, from no other point could the article be so conveniently distributed to those districts where their use is required. We are informed that they have been sent from here to Texas, and even to Santa Fe.

The facilities of distribution constitute one of the most important considerations in the location of manufactories, and there is no point on the continent that possesses greater advantages in this respect, than St. Louis.

THE MEXICAN TREATY.

Treaty of peace, friendship, limits, and settlement, between the United States of America and the Mexican Republic, concluded at Guadalupe Hidalgo on the 2d day of February, in the year 1848.

In the name of Almighty God:

The United States of America and the United Mexican States, animated by a sincere desire to put an end to the calamities of the war which unhappily exists between the two republics, and to establish upon a solid basis relations of peace and friendship, which shall confer reciprocal benefits upon the citizens of both,

and assure the concord, harmony, and mutual confidence wherein the two people should live as good neighbors, have for that purpose appointed their respective plenipotentiaries—that is to say, the President of the United States has appointed Nicholas P. Trist, a citizen of the United States, and the President of the Mexican republic has appointed Don Luis Gonzaga Cuevas, Don Bernardo Couto, and Don Miguel Atristain, citizens of the said republic, who, after a reciprocal communication of their respective full powers, have, under the protection of Almighty God, the author of peace, arranged, agreed upon, and signed the following:

Treaty of Peace, Friendship, Limits, and Settlement, between the United States of America and the Mexican Republic.

ARTICLE I.

There shall be firm and universal peace between the United States of America and the Mexican Republic, and between their respective countries, territories, cities, towns, and people, without exception of places or persons.

ARTICLE II.

Immediately upon the signature of this treaty, a convention shall be entered into between a commissioner or commissioners appointed by the General-in-Chief of the forces of the United States, and such as may be appointed by the Mexican government, to the end, that a provisional suspension of hostilities shall take place, and that, in the places occupied by the said forces, constitutional order may be re-established, as regards the political, administrative and judicial branches, so far as this shall be permitted by the circumstances of military occupation.

ARTICLE III.

Immediately upon the ratification of the present treaty by the government of the United States, orders shall be transmitted to the commanders of their land and naval forces, requiring the latter (provided this treaty shall then have been ratified by the government of the Mexican republic, and the ratifications exchanged) immediately to desist from blockading any Mexican ports; and requiring the former (under the same condition) to commence at the earliest moment practicable, withdrawing all troops of the United States then in the interior of the Mexican republic, to points that shall be selected by common agreement, at a distance from the seaports not exceeding thirty leagues; and such evacuation of the interior of the republic shall be completed with the least possible delay; the Mexican government hereby binding itself to afford every facility in its power for rendering the same convenient to the troops on their march and in their new positions, and for promoting a good understanding between them and the inhabitants. In like manner, orders shall be despatched to the persons in charge of the custom houses at all ports occupied by the forces of the United States, requiring them (under the same condition) immediately to deliver possession of the same to the persons authorized by the Mexican government to receive it, together with all bonds and evidences of debt for duties on importations and on exportations not yet fallen due. Moreover, a faithful and exact account shall be made out, showing the

entire amount of all duties on imports and on exports collected at such custom houses or elsewhere in Mexico by authority of the United States, from and after the day of ratification of this treaty by the government of the Mexican republic; and also an account of the cost of collection, and such entire amount, deducting only the cost of collection, shall be delivered to the Mexican government, at the city of Mexico, within three months after the exchange of ratifications.

The evacuation of the capital of the Mexican Republic by the troops of the United States, in virtue of the above stipulation, shall be completed in one month after the orders there stipulated for shall have been received by the commander of said troops, or sooner if possible.

ARTICLE IV.

Immediately after the exchange of ratifications of the present treaty, all castles, forts, territories, places and possessions, which have been taken or occupied by the forces of the United States during the present war, within the limits of the Mexican republic, as about to be established by the following article, shall be definitely restored to the said republic, together with all the artillery, arms, apparatus of war, munitions, and other public property, which were in the said castles and forts when captured, and which shall remain there at the time when this treaty shall be duly ratified by the Government of the Mexican republic. To this end, immediately upon the signature of this treaty, orders shall be despatched to the American officers commanding such castles and forts, securing against the removal or destruction of any such artillery, arms, apparatus of war, munitions, or other public property. The city of Mexico, within the inner line of intrenchments surrounding the said city, is comprehended in the above stipulations, as regards the restoration of artillery, apparatus of war, &c.

The final evacuation of the territory of the Mexican republic, by the forces of the United States, shall be completed in three months from the said exchange of ratifications, or sooner if possible; the Mexican government hereby engaging, as in the foregoing article, to use all means in its power for facilitating such evacuation, and rendering it convenient to the troops, and for promoting a good understanding between them and the inhabitants.

If, however, the ratification of this treaty by both parties should not take place in time to allow the embarkation of the troops of the United States to be completed before the commencement of the sickly season at the Mexican ports on the Gulf of Mexico, in such case a friendly arrangement shall be entered into between the general-in-chief of the said troops and the Mexican government, whereby healthy and otherwise suitable places at a distance from the ports not exceeding thirty leagues shall be designated for the residence of such troops as may not yet have embarked, until the return of the healthy season. And the space of time here referred to as comprehending the sickly season shall be understood to extend from the first day of May to the first day of November.

All prisoners of war taken on either side, on land or on sea, shall be restored

as soon as practicable after the exchange of ratifications of this treaty. It is also agreed that if any Mexican should now be held as captives by any savage tribe within the limits of the United States, as about to be established by the following article, the government of the said United States will exact the release of such captives, and cause them to be restored to their country.

ARTICLE V.

The boundary line between the two republics shall commence in the gulf of Mexico, three leagues from land, opposite the mouth of the Rio Grande, otherwise called Rio Bravo del Norte, or opposite the mouth of its deepest branch, if it should have more than one branch emptying directly into the sea; from thence up the middle of that river, following the deepest channel, where it has more than one, to the point where it strikes the southern boundary of New Mexico; thence, westwardly, along the whole southern boundary of New Mexico (which runs north of the town called *Paso*) to its western termination; thence, northward, along the western line of New Mexico, until it intersects the first branch of the river Gila; (or if it should not intersect any branch of that river, then to the point on the said line nearest to such branch, and thence in a direct line to the same;) thence down the middle of the said branch, and of the said river, until it empties into the Rio Colorado; thence across the Rio Colorado, following the division line between Upper and Lower California, to the Pacific ocean.

The southern and western limits of New Mexico, mentioned in this article, are those laid down in the map entitled "*Map of the United Mexican States, as organized and defined by various acts of the Congress of the said Republic, and constructed according to the best authorities. Revised edition. Published at New York in* 1847, *by J. Disturnell.*" Of which map a copy is added to this treaty, bearing the signatures and seals of the undersigned plenipotentiaries. And in order to preclude all difficulty in tracing upon the ground the limit separating Upper from Lower California, it is agreed that the said limit shall consist of a straight line drawn from the middle of the Rio Gila, where it unites with the Colorodo, to a point on the coast of the Pacific ocean, distant one marine league due south of the southern most point of the port of San Diego, according to the plan of said port made in the year 1782 by Don Juan Pantoja, second sailing master of the Spanish fleet, and published at Madrid in the year 1800, in the Atlas to the voyage of the schooners *Sutil* and *Mexicana*, of which plan a copy is hereunto added, signed and sealed by the respective plenipotentiaries.

In order to designate the boundary line with due precision, upon authoritative maps, and to establish upon the ground landmarks which shall show the limits of both republics, as described in the present article, the two governments shall each appoint a commissioner and a surveyor, who, before the expiration of one year from the date of the exchange of ratifications of this treaty, shall meet at the port of San Diego, and proceed to run and mark the said boundary in its whole course to the mouth of the Rio Bravo del Norte. They shall keep jour-

nals and mark out plans of their operations; and the result agreed upon by them shall be deemed a part of this treaty, and shall have the same force as if it were inserted therein. The two governments will amicably agree regarding what may be necessary to these persons, and also as to their respective escorts, should such be necessary.

The boundary line established by this article shall be religiously respected by each of the two republics, and no change shall ever be made therein, except by the express and free consent of both nations, lawfully given by the general government of each, in conformity with its own constitution.

ARTICLE VI.

The vessels and citizens of the United States shall, in all time, have a free and uninterrupted passage by the Gulf of California, and by the river Colorado below its confluence with the Gila, to and from their possessions situated north of the boundary line defined in the preceding article; it being understood that this passage is to be by navigating the Gulf of California and the river Colorado, and not by land, without the express consent of the Mexican government.

If, by the examinations which may be made, it should be ascertained to be practicable and advantageous to construct a road, canal or railway, which should in whole or in part run upon the river Gila, or upon its right or its left bank, within the space of one marine league from either margin of the river, the governments of both republics will form an agreement regarding its construction, in order that it may serve equally for the use and advantage of both countries.

ARTICLE VII.

The river Gila, and the part of the Rio Bravo del Norte lying below the southern boundary of New Mexico, being, agreeably to the fifth article, divided in the middle between the two republics, the navigation of the Gila and of the Bravo below said boundary shall be free and common to the vessels and citizens of both countries; and neither shall, without consent of the other, construct any work that may impede or interrupt, in whole or in part, the exercise of this right; not even for the purpose of favoring new methods of navigation. Nor shall any tax or contribution, under any denomination or title, be levied upon vessels or persons navigating the same, or upon merchandise or effects transported thereon, except in the case of landing upon one of their shores. If, for the purpose of making the said rivers navigable, or for maintaining them in such state, it should be necessary or advantageous to establish any tax or contribution, this shall not be done without the consent of both governments.

The stipulations contained in the present article shall not impair the territorial rights of either republic within its established limits.

ARTICLE VIII.

Mexicans now established in territories previously belonging to Mexico, and which remain for the future within the limits of the United States, as defined by

the present treaty, shall be free to continue where they now reside, or to remove at any time to the Mexican republic, retaining the property which they possess in the said territories, or disposing thereof, and removing the proceeds wherever they please, without their being subjected, on this account, to any contribution, tax, or charge whatever.

Those who shall prefer to remain in the said territories may either retain the title and rights of Mexican citizens, or acquire those of citizens of the United States. But they shall be under the obligation to make their election within one year from the date of the exchange of ratifications of this treaty; and those who shall remain in the said territories after the expiration of that year, without having declared their intention to retain the character of Mexicans, shall be considered to have elected to become citizens of the United States.

In the said territories, property of every kind, now belonging to Mexicans not established there, shall be inviolably respected. The present owners, the heirs of these, and all Mexicans who may hereafter acquire said property by contract, shall enjoy with respect to it guarantees equally ample, as if the same belonged to citizens of the United States.

ARTICLE IX.

Mexicans who, in the territories aforesaid, shall not preserve the character of citizens of the Mexican republic, conformably with what is stipulated in the preceding article, shall be incorporated into the union of the United States, and be admitted at the proper time (to be judged of by the congress of the United States) to the enjoyment of all the rights of citizens of the United States, according to the principles of the constitution; and in the mean time shall be maintained and protected in the enjoyment of their liberty and property, and secured in the free exercise of their religion without restriction.

ARTICLE X—[*Stricken out.*]

ARTICLE XI.

Considering that a great part of the territories which, by the present treaty, are to be comprehended for the future within the limits of the United States, is now occupied by savage tribes, who will hereafter be under the exclusive control of the government of the United States, and whose incursions within the territory of Mexico would be prejudicial in the extreme, it is solemnly agreed that all such incursions shall be forcibly restrained by the government of the United States whensoever this may be necessary; and that when they cannot be prevented, they shall be punished by the said government, and satisfaction for the same shall be exacted—all in the same way, and with equal diligence and energy, as if the same incursions were meditated or committed within its own territory, against its own citizens.

It shall not be lawful, under any pretext whatever, for any inhabitant of the United States to purchase or acquire any Mexican, or any foreigner residing in Mexico who may have been captured by Indians inhabiting the territory of either

of the two republics, nor to purchase or acquire horses, mules, cattle, or property of any kind, stolen within Mexican territory by such Indians.

And in the event of any person or persons, captured within Mexican territory by Indians, being carried into the territory of the United States, the government of the latter engages and binds itself, in the most solemn manner, so soon as it shall know of such captives being within its territory, and shall be able so to do through the faithful exercise of its influence and power, to rescue them and return them to their country, or deliver them to the agent or representative of the Mexican government. The Mexican authorities will, as far as practicable, give to the government of the United States notice of such captures; and its agent shall pay the expenses incurred in the maintenance and transmission of the rescued captives; who, in the meantime, shall be treated with the utmost hospitality by the American authorities at the place where they may be. But if the government of the United States, before receiving such notice from Mexico, should obtain intelligence, through any other channel, of the existence of Mexican captives within its territory, it will proceed forthwith to effect their release and delivery to the Mexican agent as above stipulated.

For the purpose of giving to these stipulations the fullest possible efficacy, thereby affording the security and redress demanded by their true spirit and intent, the government of the United States will now and hereafter pass, without unnecessary delay, and always vigilantly enforce, such laws as the nature of the subject may require. And finally, the sacredness of this obligation shall never be lost sight of by the said government when providing for the removal of the Indians from any portion of the said territories, or for its being settled by citizens of the United States, but, on the contrary, special care shall then be taken not to place its Indian occupants under the necessity of seeking new homes, by committing those invasions which the United States have solemnly obliged themselves to restrain.

[CONCLUSION IN NEXT NUMBER.]

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TO AGENTS.

Such individuals as have been requested to act as agents, will please let us hear from them at an early day.